BLACK BOX®
NETWORK SERVICES

The AV, Multimedia, and Digital Signage Design and Sourcing Guide

Get everything you need for end-to-end solutions that deliver compelling results.

Integrated Hardware/Software | Distribution/Extension | Matrix Switching | Wireless Distribution/Presentation

www.blackbox.eu

Cost-effective ways to create professional signage—

iCOMPEL™ SMB Digital Signage, 2U
See pages 12–17

Gather, distribute, and manage your digital signage content more easily with our selection of platforms. With a number of options for small-to-medium businesses (SMBs) and enterprises, and new wearable digital signage, Black Box has what you need to implement a media-rich network of signs for compelling results. Plus, we offer everything you need behind the screens.

In fact, no one is better suited to bring you the *total* digital signage solution than us, no matter what your level of technical or creative expertise—and your budget.

What's inside this guide:

NEC/3M iCOMPEL Touchscreen LCDs
Take signage to the next level with reliable touch interactivity.
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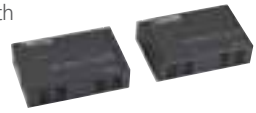
XR HDMI and IR Extender
XR: the eXtended Range HDMI® solution with enhanced control.
Page 26



3D HDMI CATx Extender
Reach HDTV and 3D screens simply and affordably.
Page 26

MediaCento™ HX
Reach multiple HD and 3D screens using CAT5e/CAT6 cable for uncompressed HDMI extension.
Page 27

Mini Extender for DVI-D and Stereo Audio over Fiber
Compact ways to extend DVI-D video and stereo audio up to 1.5 kilometers over one strand of fiber.
Page 31

1 x 8 HDMI Splitter with Audio
Duplicate an HDMI signal on eight screens and distribute audio separate from HDMI channels.
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DisplayPort Switches
Economical ways to switch multiple DisplayPort sources to a single DisplayPort display.
Page 49

VGA Matrix Switches
Programmable matrix switches for easily routing VGA and 1080p video to multiple screens.
Page 54

Multi-Format AV to HDMI Switching HD Scaler
Scale multiple types of video and audio for digital HDMI output.
Page 57

and get HD video to the screens.

Related Products:

iCOMPEL SMB Digital Signage, VESA Mount

See pages 12–17

iCOMPEL EDS Enterprise Digital Signage

See pages 18–20

Customs:

Display Enclosures customizable with AC cooling and heaters, for touchscreens, for back-to-back screens, and more.
See page 22

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3G-SDI/HD-SDI to HDMI Converter
Precisely fine-tune and adjust screen position after installation.
Page 62

VGA/DVI to DVI-D Converter
Convert and scale analog VGA video, plus DVI-D video, for single-link DVI-D output.
Page 62

HDMI and DVI Pattern Generator
Save time when testing video calibration on HDMI and DVI screens.
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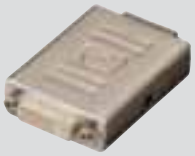
Best Sellers:

DVI-D Extender
An handy extender for linking a DVI-D screen up to 100 feet away.
Page 29



MediaCento™ RF
Use low-cost coax to broadcast HD video and audio to multiple HDTV screens.
Page 40

Wireless Video Presentation System III
The simple way to improve collaboration among laptop users in large meeting rooms.
Page 68

Resources

White papers
Download digital signage white papers at **blackbox.eu**.

How-to videos
Getting started with digital signage? Watch our videos at **blackbox.eu**.

FREE, Live, 24/7 Tech Support
Talk with an expert in 30 seconds or less or go to **blackbox.eu**.

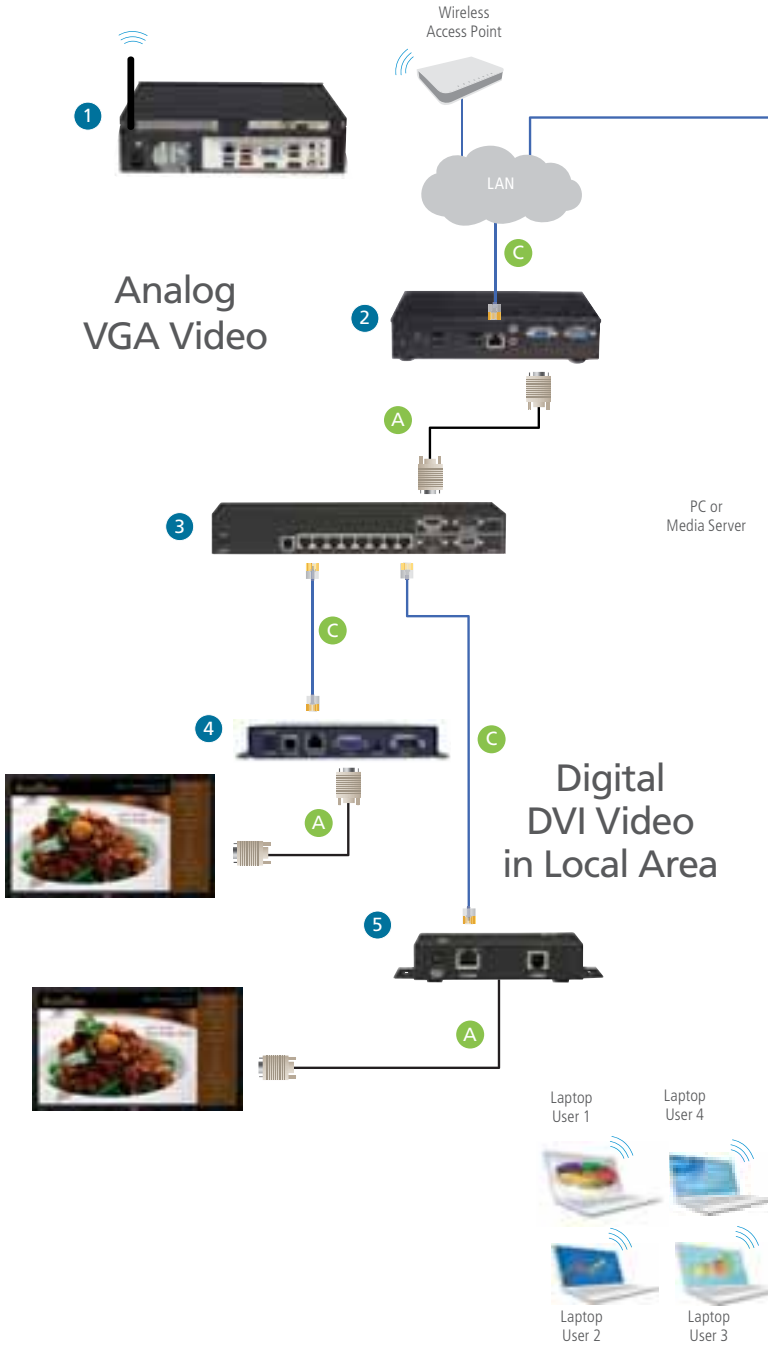
Take your HD digital signage, kiosk, and/or video applications

Let our signage, kiosk, and video distribution experts help you find the right technologies to deliver pixel-perfect performance. With more than 400 years of combined expertise, Black Box can help you every step of the way.

We're your source for digital signage platforms, *and* we're the industry-leading provider of everything behind the screens. And we mean everything—AV splitters, extenders, switches, converters, scalers, enclosures, and more.

Technologies featured in diagram:

1. **iCOMPEL™ SMB Publisher (ICPS-2U-PU-W), pp. 12–17**
   Use to distribute HD content over the LAN to your signage; shown with the optional Wi-Fi module installed.
2. **iCOMPEL Subscriber Players (ICPS-VE-SU-N), pp. 12–17**
   Receive HD content distributed over the LAN.
3. **HD View™ 8-Port Transmitter (AC3008A-R2), p. 35**
   Broadcasts high-def analog VGA video (plus serial signals and audio, if necessary) over CATx cabling to multiple locations.
4. **HD View Receiver (AC3003A-R2), p. 35**
   Receives VGA video (plus serial signals and audio) over CATx at distances of up to 360 feet.
5. **HD View Long-Range Receiver (AC3004A-R2), p. 35**
   Receives VGA video (plus serial signals and audio) over CATx at distances of up to 1000 feet.
6. **DVI Matrix Switch with Audio (AVSW-DVI8X8), p. 51**
   Routes HD video from up to eight DVI sources to as many as eight DVI devices—with any input directed to any output.
7. **ServSwitch™ Agility DVI, USB, and Audio Extender over IP, Transmitter (ACR1000A-T), see blackbox.eu**
   Multicasts video (plus audio, if needed) over an IP network, distributing perfect digital video with no loss.
8. **ServSwitch Agility DVI, USB, and Audio Extender over IP, Receivers (ACR1000A-R), see blackbox.eu**
   Receive video (plus audio,) over an IP network, delivering high-quality DVI video content to digital screens.
9. **Mini Extender Kit for DVI-D and Stereo Audio over Fiber (AVX-DVI-FO-MINI), p. 31**
   Extends DVI video (and audio) up to 1.5 kilometers over a single strand of fiber optic cable (kit includes both a transmitter and a receiver).
10. **Display Enclosure for 50"–52" Display (ENC-52), p. 22**
    Protects expensive displays and circuitry indoors and out without obscuring clarity of video (other sizes also available).
11. **Wireless Video Presentation System III (AC1132A), p. 68**
    Turns a wired VGA projector into a wireless one, enabling up to 254 laptop users to wirelessly project video presentations.



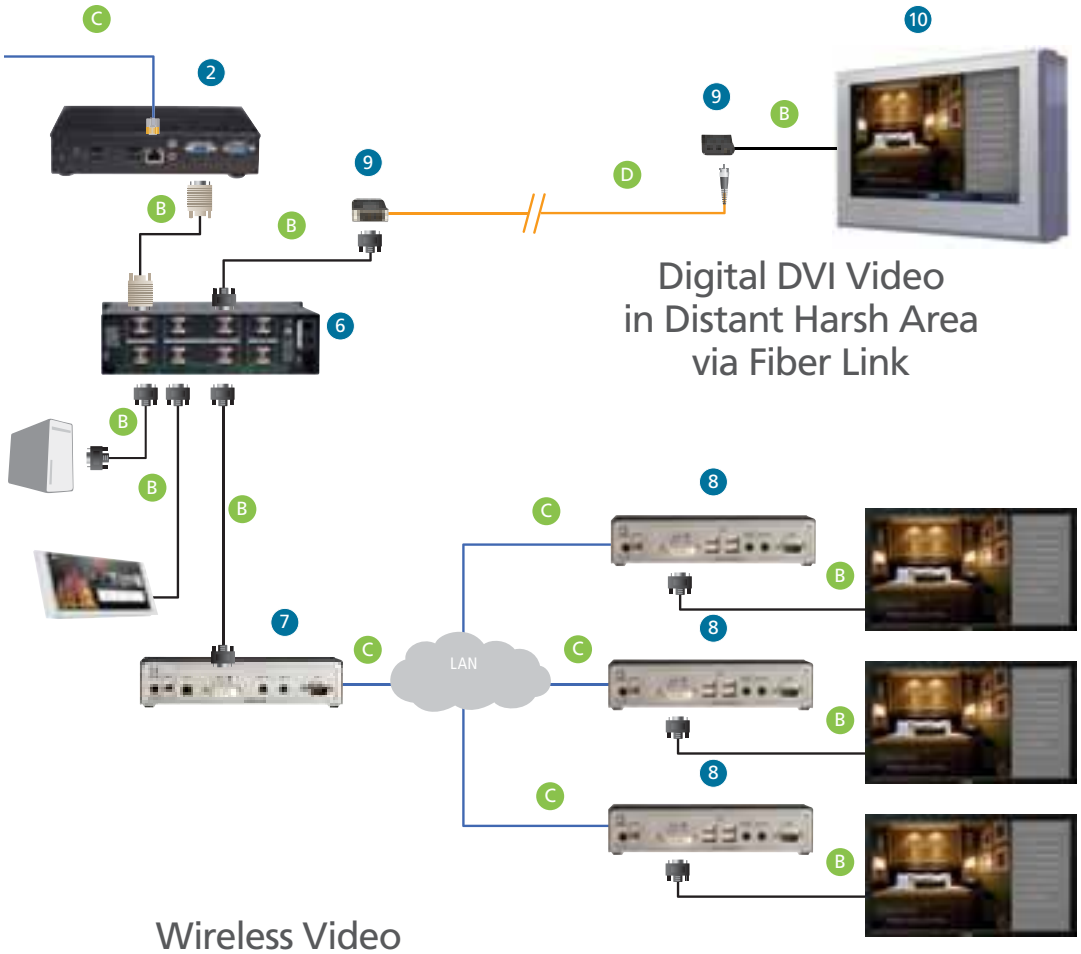
Also see blackbox.eu for our:

- Network switches
- Ethernet extenders
- Wireless networking solutions
- Media converters
- Network backup switches
- Access control solutions
- Console and terminal servers
- IT cabinets and racks
- KVM switches and extenders
- KVM trays for the server room
- Industrial-grade communication solutions
- Converged VoIP platforms
- Testers and tools

where they need to go with Black Box's end-to-end solutions!

Plus we have all the cabling and accessories you need to integrate your video system into your existing IT infrastructure. Not only are we knowledgeable about today's latest AV distribution technologies, but we know IT networks, too. We've been handling IT for well over 30 years.

What's more, our huge product selection includes many solutions for extending HD video over IP networks without any video loss. The diagram below shows how just some of our products work together to distribute both analog and digital video.



more info Webinars, Demos, Brochures, Videos, Case Studies: blackbox.eu

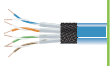
Cabling available:

A Analog Video
VGA and Component (**pp. 71–72**).

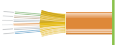
B Digital Video
DVI, HDMI®, DisplayPort: standard or adapter (**pp. 70–71**).

See **blackbox.eu** for:

C CATx
CAT5e, CAT6, patch, bulk, premium, or value priced.



D Fiber Optic
Single-mode, multimode, patch, bulk, or cut to length.



E Audio
Deluxe RCA and 3.5-mm stereo and speaker wire.

Coax
Bulk, standard, and, customs for CATV and baseband runs.

Serial
RS-232 standard or extended distance, office, or industrial.

CATx Specialty Patch
SpaceGAIN™ for tight areas and LockPORT™ for secure plug-ins.

Plus:
- Custom cables
- Hard-to-find cables
- Connectors and adapters
- Wallplates and jacks
- And many other cabling accessories.

No matter what your level of technical or creative expertise, turn to us for help planning, designing, and procuring your digital signage.

NOTE: For video wall applications, additional equipment may be required.

Why you should get it.

No other medium makes it possible to deliver compelling content at the right location at the right time for maximum impact. It works whether your goal is to:

- Increase sales and profits.
- Communicate additional benefits of a product or service
- Inform, educate, notify, or alert, and encourage certain behavior.
- Satisfy customers or employees.
- Improve business processes.
- Or all the above.

People on the go often overlook or ignore posters and other printed signage. Strengthen your marketing, as well as internal communications, by replacing boring static signage with eye-catching digital signage in lobbies, waiting rooms, or any place frequented by your target audience.

Now much easier to get and manage.

Digital signage is more affordable and easier to implement than ever before. Rolling it out used to be a daunting task, involving tons of planning and resources, with mixed results. Not anymore. Businesses wanting messaging on a single or an entire network of screens can:

- Benefit from a choice of content layout and design tools, empowering you to create truly professional-looking presentations that can be broadcasted over your LAN.
- Get up and running with minimal or no training.
- Easily manage your digital signage from any browser-based connection.
- Pay up front or as you go—whichever suits your needs and budget.
- Integrate it into an existing IT network without replacing equipment.

How the flexibility benefits you.

With today's digital signage technologies, you can:

- Create welcome messaging, menu boards, and wayfinding screens.
- Share information faster, including announcements and schedules.
- Improve the customer in-store experience and target them in real time.
- Use existing content to create compelling messaging.
- Integrate live video and Internet feeds like stock and news tickers, so you're not forced to create all the signage content by yourself.
- Use all sorts of media, including photos, illustrations, stored and live video, and audio file formats.
- Update content on the fly from any computer with an Internet link.

How to get started.

We know choosing a digital signage solution, especially at the enterprise level, can be an overwhelming task. You may even find yourself suffering from decision paralysis.

Simplify the decision-making. Simplify by talking to one of our Digital Signage Success Managers. We'll put you in touch with a platform that gives you everything you need: flexibility, affordability, and the ability to get your digital signage up and running fast.

We'll also help you plan for your future digital signage needs, so you not only realize a fast ROI now, but you also get the most of our your investment in the future.

Black Box Digital Signage Case Studies:

The client:

Joy Mining Machinery

The need:

Joy Mining Machinery is active on five continents with a network of 55 facilities spanning the globe, so maintaining consistent branding and messaging can be a challenge. The company decided to use digital signage to address this need.

The company knew the signage would have to be administered from one location. However, it also recognized that facilities would need the flexibility to customize content for local audiences. It would also have to support internal communications, such as its efforts to improve manufacturing quality and efficiency.

Winner of the Industry Excellence Award *from the Digital Screenmedia Association (DSA), honored as the Best Corporate Communication Deployment for 2012!*

The solution:

The Joy Mining Machinery team chose Black Box's iCOMPEL™ for its digital signage because of its ease of installation and intuitive software. Other products it examined were complicated to use or short on functions.

Plus, the system supports the electronic dissemination of job info to union facilities, as well as engineering performance data to employees.

The results:

Nearly all of Joy Mining Machinery's 55 facilities now use iCOMPEL to present companywide content on lobby screens in a consistent, unified way. However, local offices can also post site-specific messages like production statistics or welcome messages for their own customers.

In addition to its primary use for lobby signage, their iCOMPEL signage has become an interconnected system for improved efficiency and manpower usage.

The company now uses iCOMPEL signage on the factory floor to display "Kanban" inventory information in real time. It tells workers which parts are in inventory and in transit, and in what bins parts are found. It feeds information back to off-site fabricators, ensuring that parts are being produced only as needed, and just in time for use.

By using digital displays, the company has started eliminating the Kanban system's paper tickets. It is now in the process of linking the system to other plants, including its South African operations.

The solution, when fully implemented, will enable the instant communication of manufacturing/inventory information around the world.

Also, by installing dedicated screens in employee-only areas of its facilities in Pennsylvania, the company's HR department was able to eliminate driving from one location in the region to the next just to post information on bulletin boards. This saved the company a lot of time and money.

The client:

La Roche College

The need:

Located in suburban Pittsburgh, La Roche College is proud to offer students a cutting-edge education and individualized attention combined with technology. Carrying its student-focused technology initiatives forward, the private Catholic college of 1350 students wanted to enhance and centralize campus communications with digital signage. The renovation of its library and updating of its technology made it an ideal time to consider the installation of campus signage.

Specifically, it wanted to use the system for communication with students, wayfinding information, emergency notifications, and the central management of information.

An iCOMPEL driven digital sign outside the campus dining hall. An ICOMPEL subscriber unit, mounted at the back of the screen, receives multimedia content via a network connection from an iCOMPEL publisher unit in a central data closet.

The solution:

La Roche College ended up choosing Black Box's iCOMPEL because its pricing was very competitive and it provided all the features it was looking for, including support for central content management, the ability to override content for emergency notifications, and ease of use.

Black Box handled the site survey, system design, and installation of the iCOMPEL units, the displays, and their mounts.

The installation included signage set up in the college's campus center and fitness center, and at entrances to the dining hall and the library, where the college has set up its brand-new Providence World Café, an area where students can relax in a coffeehouse atmosphere while watching scrolling news on the digital screen.

The results:

According to the college, students, faculty, and other staff have come to expect the displays and rely on them for the latest information, so much so that college departments and student groups are beginning to submit their relevant information to be posted on them.

La Roche College staff members simply log on to the iCOMPEL system to access and upload videos, images, and other signage content. The players regularly ping the iCOMPEL publisher unit for any changes and update the screens as needed.

Public relations is responsible for general content of screens not managed by food service and athletics. College academic deadlines, sports scores, weather cancellations, and other up-to-the-minute news items can be uploaded and relayed quickly throughout the campus with the iCOMPEL driven system.

How we can help your business, institution, or organization

Corporate enterprises

Use an iCOMPEL™ platform to centrally manage external and internal communications and enhance your worldwide marketing. Digital signage not only projects the image of innovation at all points of customer engagement, it also enables you to spotlight achievements and make operations more efficient. Plus, it saves you the time it takes to distribute and correct information.

University systems or school districts

Studies indicate that today's media-savvy, social networking-integrated youth respond well to messaging delivered via digital signage. Used in larger K–12 or higher-ed applications, Black Box's MediaFlyer EXPRESS, iCOMPEL SMB, and iCOMPEL EDS platforms give you a simple-to-integrate platform for informing, alerting, and notifying students and staff in all school buildings or across an entire statewide system of branch campuses.

Retail outlets

Boost sales and make branding headway in the retail environment. Digital signage enables you to reach customers in stores at the point of sale and draw them inside. Our iCOMPEL WDS wearable signage enhances customer engagement, and our iCOMPEL EDS supports ad-based networks, so you can stream ads from advertisers. You can also link EDS to a database, so what's promoted dynamically reflects current inventory.

Quick-service restaurant chains

Replace static menu boards with digital screens controlled by your corporate office. With an iCOMPEL or MediaFlyer EXPRESS solution, you can configure boards for instant specials updates and to show menu choices. Also, because our iCOMPEL systems support touchscreen connections, you can easily set up self-serve kiosks to streamline ordering, reduce wait times, and increase order accuracy.

Hospitals and healthcare facilities

Communicate more effectively with patients, visitors, and staff. With our ICOMPEL SMB, hospitals have an easy way to distribute info to waiting rooms, cafeterias, and other common areas. Our version with HD capture even supports showing of digital TV and info on the same screen. Medical offices can use MediaFlyer EXPRESS for public service announcements. For multisite healthcare systems, consider using iCOMPEL EDS.

Hotels

Travelers trust familiar brands in unfamiliar locales. Use digital signage to create consistent branding for your hotel no matter what the location. Digital signage also works wonders at delivering relevant *local* information to guests. Use it to communicate with arriving groups while also promoting your restaurant and services, and running ads for local businesses. Display live flight information or weather forecasts to ease your guests' planning.

improve internal and external communications with audiences.

Airports

Arrival and departure times change like the weather. Provide up-to-date information at every gate and along every concourse with digital signage. Use content that's not only informative but also entertaining—a great way to help passengers pass the time during delays and layovers. In high-traffic areas, think big and build a video wall showing a single image spread over multiple screens (ask us about our video wall controller solutions).

Subways, buses, and taxis

Deliver real-time—and, if necessary, emergency—messaging to subway or bus stations while also making the commuting experience more pleasurable. Our iCOMPEL EDS supports city- or region-wide signage deployment. You can also use digital signs on buses, in subways, and in taxis to reach a "captive audience." Sell ad space, promote services, and publicize up-to-date rates and route changes.

Stadiums and amusement parks

Use dynamic signage to create an atmosphere of excitement while also streaming ads and entertaining content. Our digital signage platforms give you a great way to reach customers at entrances, concession stands, or anywhere they're forced to wait—a big advantage in parks with very long lines for rides. We even offer outdoor enclosures for protecting valuable displays in all-weather venues.

Government buildings

In multisite agency deployments, administrators can use iCOMPEL EDS to stream content to hundreds of screens in many states. It's also great for providing directions and broadcasting helpful info in large municipal or court systems. And because it's easy to scale as funding allows, the platform is perfect for departments who can't commit to huge outlay of funds at the start of a signage project.

Military installations

Stream base TV programming alongside content specific to snack bars, PXs, and other garrison buildings where service members and their families congregate. Our signage platforms simplify the job of public affairs staff to disseminate information, including messaging relating to mission-readiness, across a large installation. Plus, they're perfect for issuing alerts, spotlighting achievements, and boosting morale.

Convention centers and casinos

Point conventioneers in the right direction at numerous points throughout your event or expo hall with an iCOMPEL solution. Because our platforms feature touchscreen support, setting up interactive maps is a breeze. Digital signage is also great for gaming venues that want to welcome guests, promote new games and entertainment, and spotlight big winners in large, multiroom settings.

What to consider when planning your digital signage

Our end user-focused, consultative approach.

We're experienced at putting users in touch with a digital signage solution that fits their needs. We don't provide one-size-fits-all products; we provide systems for your exact needs—nothing more, nothing less.

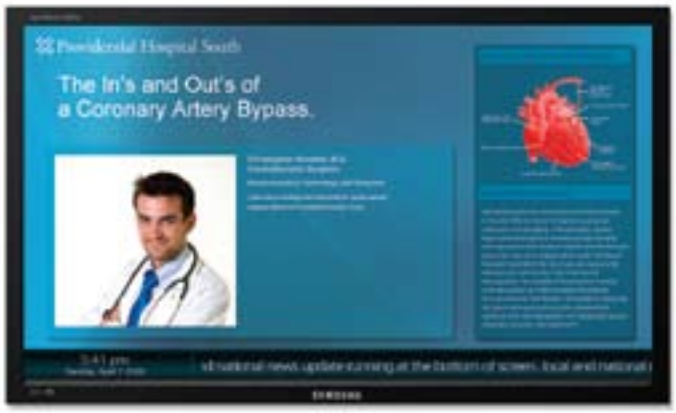
To be sure you're matched to the right platform, we highly recommend speaking with us by phone. But before you call, we advise you to try and answer as many questions as possible below, check off what features you think you might need, and take a look at the chart on the **facing page**. The chart provides a quick comparison of each platform's mode of delivery and features (for more detailed descriptions, see the subsequent pages in this guide).

11 quick-start questions to answer:

1. How many screens do you intend to have?
2. Will the screens have the same or different content?
3. How many locations, and what are the distances to these locations?
4. Who is the audience who will be viewing the signage?
   Customers, employees, visitors, or all of these groups?
5. What information do you want to communicate?
   Advertising, current information (news, weather, internal data), personalized messages ("Welcome, Mr. Smith"), instructions (directions, schedules)?
6. What is the purpose of this installation?
   Selling a product or service, informing an audience (wayfinding), entertaining the viewer (i.e. those waiting in line), reinforcing a theme?
7. What existing media assets do you want to redeploy?
   Web information, system data (inventory or production numbers), existing ads (video, print, Web formats), and/or live TV feeds?
8. Where does information come from, and from how many contributors?
   Do multiple people/departments need to submit information, and if so, where are they located? Who is the "owner" of information? Are third-party suppliers involved (for instance, an ad agency)?
9. How often will this information be updated?
   Constant updates (system status, live messages, etc.) or periodic updates (for instance, video files with low refresh cycles)?
10. What types of displays will be required?
    What sizes, resolutions, and screen orientations?
11. How will the monitors and digital signage players be mounted?
    On the ceiling, wall, floor, or in a rack?

Buyers' Checklist

- ✔ Do you want a live TV feed?
- ✔ Want to stream IPTV content through players?
- ✔ Need to fast forward or toggle between presentations and control volume at the screen?
- ✔ Need to stream content to a subscriber wirelessly?
- ✔ Do you need your signage to have interactive touch?
- ✔ Do you need to capture pure HD video content?
- ✔ Want to use the appliance as a media server?
- ✔ Need to support many players in many time zones?
- ✔ Will you be using mostly social media for content?
- ✔ Will you need to render professional-quality Flash?
- ✔ Because of security or space issues, do you require the player to be installed in the display itself?
- ✔ Do you want to install the platform on a server?
- ✔ Want to tile images across several screens?



At right: A tiled matrix of four screens showing a single image. Not all platforms support this, and you may need additional video wall controller equipment if your displays do not support the tiling function natively. Plus, for near-seamless tiling, thin-bezel screens should be used. For more information, please contact our FREE 24/7 Tech Support.

application and evaluating the different platforms.

Compare the features and capabilities of our digital signage platforms (as well as competing **like-priced** platforms):

Features & Capabilities		MediaFlyer™ EXPRESS (pages 10–11)	iCOMPEL™ SMB (pages 12–17)	iCOMPEL EDS (pages 18–20)	Other Platform You're Evaluating
Delivery modes	Multiple-role platform (publishers/players/subscribers)		•		
	Enterprise-class platform (VMware® server software/subscribers)			•	
	Scalable, Web-hosted management platform (Web site/subscribers)	•			
Platform's player features and capabilities	Remote access through a standard Web browser	•	•	•	
	High level of security/VPS network manageable		•	•	
	Supports multiple media formats within each playlist	•	•	•	
	Support for multiple zones on a screen	•	•	•	
	Multilayering and overlapping (z-index) of any or all zones		•	•	
	Layering of zones with transparency and alpha blending		•	•	
	Independent audio zone with audio level control		•	•	
	Audio level controllable by player		•		
	Multiplayer content synchronization		•	•	
	Meta tagging available for players	•		•	
	Detailed per-account/per-user security and settings	•		•	
Graphic design features	Multiple simultaneous text rolls and crawls	•	•	•	
	Imported or custom fonts		•	•	
	Includes professionally designed layout templates		•		
	HTML page capture capabilities	•	•	•	
	Supports zones for data feed integration	•	•	•	
	Supports right-to-left text (for certain language-scrolling requirements)		•	•	
	Drag-and-drop control of images and graphical elements	•	•	•	
	Maintains aspect ratio, stretching to fill or maintain native size, zone by zone	•	•	•	
	Supports Adobe® Flash Version 10 or 11 (.swf)	11	11	10	
	Layered zone capability with transparency		•	•	
	Overlay text on top of images	•	•	•	
	Use of block style text for RSS feeds and other streaming text			•	
Content transfer capabilities	Can be done in a single file upload through a graphical user interface	•	•	•	
	Can use FTP for multiple file upload		•	•	
	Can be uploaded by a local user at the remote player ("ad-hoc")		•	•	
Data exchange capabilities	Supports XML Web feeds (RSS tickers, Atom, etc.)	•	•	•	
	LDAP/active directory support	•	•		
	Microsoft® Exchange and Microsoft SQL Server support		*		
	Supports data feeds for ad networks			•	
	Supports an API for use with applications for content and player control	•			
Output modes	DVI and/or HDMI video output on subscribers/players	•	•	•	
	Selectable rotation for portrait modes	•	•	•	
	Customizable aspect ratios and resolutions	•	•	•	
Video capabilities	Scalable, positionable graphics over live video and clips		•	•	
	IP video streaming		•	•	
	Set-top analog CATV video capture option		•	*	
	Digital HD video capture option		•		
External control and support	Support for general-purpose input/output (GPIO) via RS-232 trigger mechanism	•	•	•	
	Touchscreen capability for USB HID touch devices	•	•	•	
Scheduling capabilities	Drag-and-drop playlist creation	•	•	•	
	Multiple layouts, playlists, and schedules can be defined	•	•	•	
	Schedule the turning on/off of displays	†	•	•	
	Global time zone support for playout at correct local times	•		•	

* With additional software or equipment.
† Via power save mode.

MediaFlyer EXPRESS Hosted Digital Signage

The affordable, easy-to-use digital signage system that

- Powerful system for companies with limited IT departments and creative resources.
- Advertise and improve communications to get an edge on your competition.
- Four steps to success: connect and power your player(s); create and log in to your account; register your player(s); and add content.
- Design, schedule, assign and share content from anywhere via the Web.
- Choose from pre-defined screen layouts or make your own.
- Schedule playlists to show content at specfic times via a calendar or use our powerful mashup engine to automate scheduling.
- HD modes including 1080p, 1080i, 720p, and 720i, and VESA mode, too!
- Easy to scale from one site to many sites and one user to many users.
- Drag-and-drop scheduling for instant content updates.
- Lightweight, compact player with low power consumption.
- VESA-mountable player attaches to the back of a screen.
- ✦✦**WARRANTY** — 1 Year

MediaFlyer EXPRESS architecture

The subscription-based signage solution.

MediaFlyer™ EXPRESS provides ample functionality and satisfies a range of needs, whether you just want to show slideshows and Twitter feeds on one screen or if you need to support multiple players at multiple sites.

This simple-to-implement digital signage platform turns any user—the average office manager, business owner, or a system integrator—into a multimedia pro.

Loaded with features, MediaFlyer EXPRESS enables you to play many kinds of content, manage it from a network, and automate content playing for 24/7 viewer engagement.

It's ideal for business lobbies, doctor's offices, bars, restaurants, retail stores, schools, and virtually any location with Internet access.

And, unlike other subscription services, MediaFlyer EXPRESS keeps its player(s) continuously connected to its Web-based service, so content updates occur almost instantly. You can quickly correct any errors or put up a special promo to take advantage of an immediate opportunity.

Your content displayed in 20 minutes!

MediaFlyer EXPRESS gives you all the features and functions you need to set up your signage. All you need is the screen. It combines a hosted Web service, player, and all the cables you need with a drag-and-drop interface, so everything falls into place. In little time, you'll have a display that attracts customer attention.

Store and play many types of content: Flash® files, PowerPoint® slideshows, live text, RSS news feeds, or any mixture of these in a layout of your design. The system uses a playlist, just like any other digital signage player, and the playlist loops back to the beginning when it's done. Don't want to be bothered with playlists? Then just set it up to run "mashups," with the system randomly displaying a mix of media on the screen.

Media formats supported:

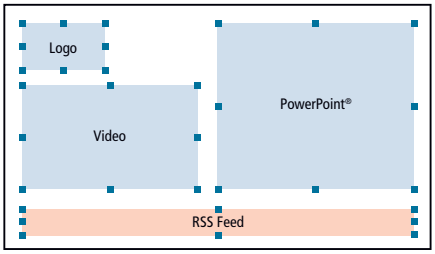
- Flash® (.swf)
- PowerPoint® (.ppt)
- MPEG 4 (.mp4, .m4v, or .mpg)
- QuickTime® (H.264 .mov)
- Windows® Media (.wmv)
- Ogg (.ogg)
- GIF, TIFF, JPEG, BMP, and PNG still images
- PDF
- HTML elements
- Editable RSS feeds
- Calendar formats
- Twitter® Wall
- Twitter Timeline
- Flash clocks
- Flash widgets
- Weather apps
- Flickr® Importer
- Flickr Search
- Google® Trends
- Tender Support
- Timetric data
- YouTube®
- Webcams

leverages your content, Web content, and social media.

Getting started: It's easy as 1–2–3.

Step 1: Connect your player(s) to a display, the Internet, and power. The player registration information comes up right on the display. Then create or log in to your mediaflyer.blackbox.com account and add your players and subscriptions

Step 2: Upload content using drag-and-drop. You can upload files one of two ways: by clicking on +Add button and browsing to your files or by dragging and dropping the files from your machine directly to the portal's page (Google



Chrome® and Firefox® users only). The uploader shows you a thumbnail of the file and its size and gives you the opportunity to rename it.

Step 3: Assign content to a player or a group of players using drag and drop. The process for getting content to anywhere in the world normally only takes a few seconds. You can control the content being shown on any display anywhere in your organization individually, or you can set any number of your displays to show identical content.

Save time by using one of the preloaded, predefined layouts, or you can create your own using the intuitive layout tool. It enables you to divide a display into two or more areas and create a ticker or text crawl in a zone at the bottom. Add as many zones as you like, move them around, make them larger or wider.

For content placement, you can expand or contract an image until it fits within the pixels available. Or you can expand and crop the image to fit the screen or scale it horizontally and vertically so it fills the screen.

Content updates are automatically sent to the players without making a new schedule or reassigning it.

Plus, as an option, the system supports HTTP-based API programming for interfacing with SharePoint® and other data sources.

Where it fits in our digital signage line:

- Ideal for businesses with minimal creative or IT networking expertise.
- No heavyweight publisher hardware to manage and secure; everything's done via the Web.
- For users who prefer flexible scheduling.

Other capabilities and features

- New users can be added manually, or invite them via e-mail.
- Multiple permission levels enable you to provide users with access to only the tools they need. The user interface adapts automatically for a great user experience.
- Assign content to one player or many players using drag and drop.
- Browser interface supports Java, PHP, ASP, CSS3, and HTML5.
- Compact, VESA-mountable player supports Gigabit speeds and wireless connectivity.
- Player identifies and adjusts to your display's preferred resolution.
- Plays Flash®, PowerPoint®, MPEG 4 (.mp4, .m4v, or .mpg), QuickTime® (H.264 .mov), Windows® Media (.wmv), Ogg (.ogg), and RSS feeds.
- Displays GIF, TIFF, JPEG, BMP, and PNG still images; PDF, HTML, and calendar formats.
- Social media integration (see **facing page** for all the various media supported).
- Caches content locally on the player for optimal performance.
- Diagnostic screen for easy troubleshooting.
- Supports portrait or landscape display orientation.

CE Approval — Yes
RoHS — Yes

Item	Code
MediaFlyer EXPRESS Hosted Digital Signage Platform	
1-Year Starter Kit	MFLY-X01
3-Year Starter Kit	MFLY-X03
1-Year Subscription Renewal	MFLY-X01RE
3-Year Subscription Renewal	MFLY-X03RE

Learn more at blackbox.eu

iCOMPEL Digital Signage Platform for SMB

Set up impressive, attention-getting signage easily and affordably

- An appliance-based solution that sets up *FAST* with all software preinstalled on the hardware.
- FREE updates and no ongoing subscription or licensing fees for a lower cost of ownership and shorter ROI.
- Easy to scale. Use standalone with one screen or across a network to stream content to multiple screens.
- Controllable via a standard Web browser connection.
- Includes FREE professionally designed screen layouts.
- Enables you to display a mix of zones showing images, text, HTML, RSS and XML feeds, plus multiple videos side by side!
- New versions for Wi-Fi connectivity, HD video capture, kiosks and interactive kiosks, plus pluggable players for sliding into a screen's Intel® OPS slot.
- ✦✦ **WARRANTY** — 1 Year

Front view: ICOMPEL 2U P Series/S Series Publisher

Deliver the right message at the right time for maximum results using iCOMPEL. It's just what you need to assemble, distribute, and manage digital signage content easily in your small and medium-size (SMB) installation.

Best of all, iCOMPEL units work right out of the box with all software preinstalled. This way, you can get your digital signage up and running fast without having to load any software and navigate a sea of technical and broadcasting jargon.

And software updates, as well as technical support, are always free. By getting what you need upfront, you're not nickle-and-dimed year after year with ongoing licensing or SaaS fees.

With minimal setup required, iCOMPEL gives you a quick way to:

- Upsell, cross-sell, merchandise, and advertise.
- Create welcome messaging and wayfinding screens.
- Share information faster, including meeting announcements, event times, and up-to-the-minute schedule changes.
- Improve experiences for customers, visitors, and guests.
- Get daily information to internal staff for improved processes.
- Build and reinforce your brand or image.

Easy to get started.

You can Install iCOMPEL publishers and subscribers on a network and manage them via a browser from any PC or Mac® on a LAN or WAN. One iCOMPEL publisher can send media over the network to iCOMPEL subscribers in another location.

To get started, you simply connect the iCOMPEL unit to your network and to a display. After booting up, the iCOMPEL unit automatically obtains an IP address from the network. Fixed IP addresses can also be set.

Now, it's time to get creative! Begin by dragging and dropping media from your computer desktop or a folder to the iCOMPEL media folders on the appliance's hard disk or use the user interface to browse for files.

iCOMPEL supports many formats, so you can combine video with scrolling text, photos, Flash, and Web content. It handles MPEG, AVI, QuickTime®, and PowerPoint® movies, JPEG images; WAV and MP3 audio; HTML; and more (for a more complete list, see **page 16**).

You can then create one or more screen layouts containing one or more zones—and even play video in multiple zones at the same time. For maximum video and Flash rendering capabilities, be sure to order our P Series iCOMPEL (for ordering information, see **page 17**).

To show text from an RSS newsfeed, just enter the URL of the feed into the iCOMPEL Use a similar process when you want to display actual Web pages and XML feeds.

A firewall built into iCOMPEL keeps access limited to authorized users only, and there's no need to install any third-party software or virus protection. Plus, it uses HTTP and HTTPS security protocols, and supports the LDAP application protocol and VPN capabilities for secure remote access.

Six compelling reasons for iCOMPEL

- It gives you the flexibility to create attention-getting digital signage without a lot of creative or technical know-how.
- It's scalable from one to multiple digital signage displays.
- It's an affordable, one-time investment with no ongoing fees.
- It keeps digital signage simple and it's easy for beginners to master.
- It's easy to integrate; it won't cause IT and security headaches.
- It's from an industry leader with FREE 24/7 technical support who can supply everything you need for end-to-end digital signage.

For more on iCOMPEL SMB, see pages 14–17.

with the award-winning iCOMPEL.

Corporate logo in banner
Latest news provided via an RSS feed
XML feed
Video (recorded or live) streamed into screen
Stock market ticker also fed via an RSS feed
School logo on background showing school's colors
Video streamed in
Date/time stamping
Class and activity information
Ticker loop showing changes in schedules
Photo stills set up to rotate on a predefined schedule according to programmable playlist
Date/time stamping
Fonts customized to the look of your institution
Static or rotating text in an area of the screen devoted to promoting upcoming events
Imported graphics or video illustrating hospital services
Stream local weather via XML feeds
Streamed-in text crawl alerting visitors to important announcements
INICOMM
9:26 am
9:36am
Welcome:
Please sign in
CPR
Lamaze
Sunny
Pharmacy located on 2nd floor
Flu shots available Mon-Wed

Where it fits in our digital signage line:

- Integrated hardware/software solution.
- Use on a network or connect to it directly.
- Offered in many publisher, kiosk, and subscriber versions for various levels of signage.
- Includes options for TV connections, HD video capture, wireless connectivity, streaming video, touch interactivity, and remote control.
- Also available in an OPS version for installing within the screen itself.

Ideal for a number of applications.

In a lobby or reception area, iCOMPEL digital signage strengthens communications for businesses and institutions. Our list of satisfied iCOMPEL customers includes universities, hospitals, hotels, manufacturers, and many others (to read how these and others have benefited from iCOMPEL, visit **blackbox.eu**).

For many, they cited the number of features for the money and ease of use as reasons why they chose iCOMPEL. And because it's widely compatible with many types of media, there's no need to create and reformat existing media for uploading to iCOMPEL.

Used in a K–12 or higher-ed environment, iCOMPEL provides a simple-to-integrate platform for informing and notifying students and staff in buildings or on a campus. With the iCOMPEL, it's easy to build eye-catching signage without adding any technical or creative staff.

Even better, it can be used to stream content to signs in hard-to-cable areas. Just order a Wi-Fi-enabled iCOMPEL. This 802.11a/b/g/n version is ideal for applications where wired connections aren't possible and for redundant wired/wireless links to screens.

Loaded with tools for…

- Drag-and-drop layout and zone manipulation.
- Automating playout, setting up channels to show different content on different screens.
- Scheduling layouts to play at different times.
- Giving every zone in a layout its own playlist.
- Monitoring remotely over an IP network.
- Linking to external info, such as Web content.
- Linking to internal info for local content updates.
- Pulling down content from an FTP file server.
- Updating messages locally at the screen.
- Interrupting playout for emergency alerts.
- Streaming HTML content from a Web server.
- Triggering content by GPIO input signals.
- Importing and customizing fonts.
- Troubleshooting digital signage.
- Securing access.
- System monitoring.

iCOMPEL Digital Signage Platform for SMB (Continued)

Software features:

Sophisticated layout tools.

The publisher and kiosk models include a number of free layouts, so you can be up and running, displaying your choice of content in a professionally designed format within minutes.

Or you can create your own. The intuitive layout and design tool makes it easy to create layouts. Adjust, resize, position, and layer zones with a simple click and drag. Also, you can manually set pixel or percentage measurements to achieve pixel-accurate alignment or lock a movie zone to a desired aspect ratio (16:9, 5:4, or 4:3).

Set up one or more screen layouts containing one or more rectangular zones for display, either in a portrait or landscape screen configuration. You also get the flexibility to format text so it's consistent with the look and feel of your business' branding. That's because the iCOMPEL supports importing custom fonts. You can set their style, weight, and color, as well as control their scroll speed and direction on a screen.

Schedule playlists for different times of the day.

All iCOMPEL publishers can be used to control multiple content channels. This way, you can deliver a high-impact display to the particular audience or segment of customers before you, whether you need to show stored or live media.

Every zone in the display layout can run on its own schedule. When you activate a schedule, the relevant media will appear, as laid out, on your display. Different layouts can be scheduled to play at different times of the day. Each playlist runs in a continuous loop per a preset schedule

You can also show a video file stored on its internal disk (or on models with a TV or HD video capture card, show live video), show text from an internal feed, and more. Using the RSS subscriber features, you can easily display text crawls from the Internet—which is great for streaming news or stock tickers.

Plus, all iCOMPEL units support general-purpose input/output (GPIO) capabilities so content playing can be triggered (or halted) by signals originating from external device inputs. Attach a motion sensor, for example, and program the system to activate a screen when the sensor detects someone approaching —great for saving energy and extending screen life. Or set it up to provide emergency notification based on a signal sent when a secure door is opened or when an environmental condition occurs.

Resize and position items in precise increments or click and drag. Overlap and make zones transparent. iCOMPEL supports unlimited zones for text or still images, up to 15 zones for HTML, and either two or four zones for video (depending on the model ordered).

Activate scheduled content delivery from the playlist interface.

Includes FREE layouts. Customize them how you like!

*Update messaging in real time with "ad-hoc" capabilities. A customized welcome message (like that shown **above**) can be added for the specific site where the iCOMPEL subscriber is located, replacing the default content in a screen presentation.*

For more on iCOMPEL SMB, see pages 12–13.

Learn more at blackbox.eu

Video, iCOMPEL Software Demo.

Typical setup:

Use for a standalone application…

All the iCOMPEL units except for the subscriber-only models work one of three ways:

- As a kiosk player, publishing to itself.
- As a publisher, through which you can create layouts, manage playlists, then publish one or more channels to itself as an FTP client or to a USB storage device or an external FTP client. It sends a snapshot of all required files to an FTP file server at a preconfigured location in your attached IP network.
- As a subscriber, pulling down new content and instructions from an FTP client, a USB storage device, or another iCOMPEL unit.

In a basic kiosk setup, a single iCOMPEL connects directly to your network and to your display device.

Accessing the device can be done one of four ways: via a Web browser by providing an IP address along with a name and password; via an FTP client by providing a name and password (for uploading content to the iCOMPEL unit); or via Secure Shell (SSH) by giving an IP address and root password.

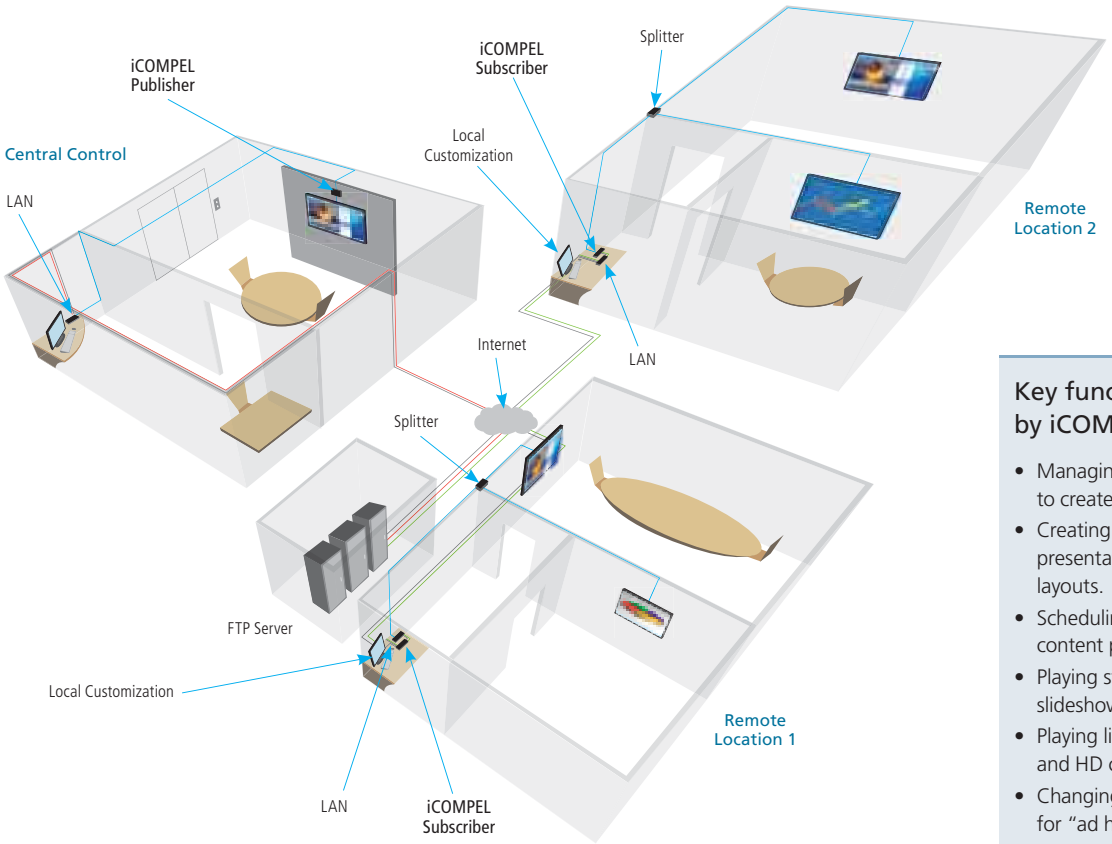
… or in multiscreen, multisite applications.

The iCOMPEL units function as kiosk players, as publishers, or as subscribers in more elaborate multisite deployments, too.

Used in a multisite application, however, iCOMPEL clones its media from another iCOMPEL over a network, acting as a channel manager, with the same digital signage presentation showing on screens at different sites at specific times.

When working as channel subscribers, the iCOMPEL units automatically download and show a channel that's been published by another iCOMPEL unit. The subscribers poll the publisher periodically for changes that may have been republished, downloading new content and deleting old content automatically.

You can also log into each subscriber and customize content on an "ad-hoc" basis. All iCOMPEL units support this, but it's particularly useful in multiscreen setups where you want to locally update screen content to issue alerts or customize messaging for specific audiences.



In a typical multiscreen, multisite application, you designate one iCOMPEL unit as a channel publisher and other units as subscribers. You then publish your latest schedule as a collection of files on a channel server (either the iCOMPEL itself or an Internet file server). Subscribers then download all files from the channel server and run content according to the new schedule.

Key functions performed by iCOMPEL:

- Managing of media files used to create content.
- Creating a number of content presentations with various layouts.
- Scheduling the distribution of content presentations in playlists.
- Playing stored media, including slideshows and recorded video.
- Playing live video (on TV capture and HD capture models).
- Changing content at the screens for "ad hoc" messaging.
- System monitoring and troubleshooting.

For more on iCOMPEL SMB, see pages 16–17.

iCOMPEL Digital Signage Platform for SMB (Continued)

Build a system according to your requirements for video, Flash, interactive

2U publisher or subscriber chassis (available for the P Series and S Series only).

P Series 2U publisher or subscriber with HD capture card.

*ICSS-VE-xU-N front (**above**) and rear (**below**).*

Media supported:

- JavaScript®
- PowerPoint movies
- Flash 11
- Real™ 1, 2, 3, 4
- MPEG 1, 2, 4 (DivX®)
- QuickTime®
- AVI
- MP3 and WAV
- GIF, TIFF, JPEG, BMP, and PNG
- Static or scrolling text
- HTML (set up one or more zones as a Web page from an existing Web server or an intranet)
- XML feeds
- RSS subscriber feeds
- Live video on certain models:
  - Up to 640 x 480 video via S-Video and Composite connectors on the models with a TV capture card (ATSC for North America; DVB-T for most other areas of the world).
  - HD video via the HDMI port on models with an HD video capture card.

For more on iCOMPEL SMB, see pages 12–15.

Series Description and Features:

P Series

- Our highest-performing system for high-quality SMB signage.
- Fastest processor for intense content (Flash at >20 fps and video at >30 fps) .
- Ideal for showing video in up to four zones simultaneously.
- Supports the display of professional-quality Flash alongside of video, static images, HTML, XML, RSS Web content.
- 2U models have large capacity to store your digital signage content library (VESA models: 40G SSD).

Featuring the highest processing power of all iCOMPEL versions, the P Series supports the frames per second needed for smooth video play-out and rendering of professional Flash. Plus, it supports up to four video zones — great for showing a mix of videos side by side!

Also, because the 2U iCOMPEL P Series Publisher units have robust onboard media storage, they can be used as a media server.

To play live video from digital sources, order versions with HD video capture. They provide pure digital connectivity via HDMI input.

S Series

- Our standard-performing system for SMB signage.
- Robust processor for optimized content (Flash at <20 fps and video at <30 fps)
- Ideal for showing two video zones simultaneously.
- Supports the display of optimized Flash alongside of video, static images, HTML, XML, RSS Web content.
- VESA models offer energy savings and reliability, and feature fast-access SSD (2U models: 250G HDD).

This series supports up to two video zones playing at the same time and is for users who plan to use their own in-house graphics and PowerPoint movie files alongside of Web content.

You can even order S Series subscribers to receive content from a P Series publisher in instances where certain screens don't need to show video- or Flash-intensive content like other screens in your application.

To also play live video, order a unit with a built-in TV capture card or a version with a new HD video capture for HDMI input.

K Series

- Standalone players for single-screen applications (kiosk) or touchscreen (interactive kiosk) uses.
- Enables playing of video in two zones simultaneously.

This VESA-mountable player supports simple one-display signage for kiosk-type applications without any requirements for more than two video zones or Flash.

O Series

- Modular units for convenient installation in an HDTV with an Intel® Open Pluggable Specification (OPS) slot.
- Enables playing of video in four zones simultaneously.

These publisher and subscriber units suit applications where you want all digital signage computing integrated into your display.

touchscreens, and more. All publishers work with all subscribers, no matter the series!

Series and Prices

Item	Code
iCOMPEL HD Digital Signage Platforms	
P Series	
2U Publisher Unit	
Standard	ICPS-2U-PU-N
with Wi-Fi	ICPS-2U-PU-W
with HD Video Capture	ICPS-2U-PU-N-H
with Wi-Fi and HD Video Capture	ICPS-2U-PU-W-H
VESA Mountable Publisher Unit	
Standard	ICPS-VE-PU-N
with Wi-Fi	ICPS-VE-PU-W
2U Subscriber Unit	
Standard	ICPS-2U-SU-N
with Wi-Fi	ICPS-2U-SU-W
with HD Video Capture	ICPS-2U-SU-N-H
with Wi-Fi and HD Video Capture	ICPS-2U-SU-W-H
VESA Mountable Subscriber Unit	
Standard	ICPS-VE-SU-N
with Wi-Fi	ICPS-VE-SU-W
S Series	
2U Publisher Unit	
Standard	ICSS-2U-PU-N
with Wi-Fi	ICSS-2U-PU-W
with TV Capture (ATSC)	ICSS-2U-PU-N-A
with TV Capture (DVB-T)	ICSS-2U-PU-N-D
with HD Video Capture	ICSS-2U-PU-N-H
with Wi-Fi and TV Capture (ATSC)	ICSS-2U-PU-W-A
with Wi-Fi and TV Capture (DVB-T)	ICSS-2U-PU-W-D
with Wi-Fi and HD Video Capture	ICSS-2U-PU-W-H
VESA Mountable Publisher Unit	
Standard	ICSS-VE-PU-N
with Wi-Fi	ICSS-VE-PU-W
2U Subscriber Unit	
Standard	ICSS-2U-SU-N
with Wi-Fi	ICSS-2U-SU-W
with TV Capture (ATSC)	ICSS-2U-SU-N-A
with TV Capture (DVB-T)	ICSS-2U-SU-N-D
with HD Video Capture	ICSS-2U-SU-N-H
with Wi-Fi and TV Capture (ATSC)	ICSS-2U-SU-W-A
with Wi-Fi and TV Capture (DVB-T)	ICSS-2U-SU-W-D
with Wi-Fi and HD Video Capture	ICSS-2U-SU-W-H
VESA Mountable Subscriber Unit	
Standard	ICSS-VE-SU-N
with Wi-Fi	ICSS-VE-SU-W
K Series	
VESA Mountable Standalone Player for Kiosks	
Standard	ICKS-VE-KU-N
with Wi-Fi	ICKS-VE-KU-W
VESA Mountable Standalone Player Plus for Interactive Kiosks	
Standard	ICKP-VE-IU-N
with Wi-Fi	ICKP-VE-IU-W
O Series	
Intel® Open Pluggable Specification (OPS)	
Publisher	ICOS-PU
Subscriber	ICOS-SU

See our NEC®/3M® Integrated Touchscreen LCDs for interactive iCOMPEL signage on page 23.

Accessories

iCOMPEL Deployment Manager (iDM)

- For larger signage deployments.
- Enables you to manage your iCOMPEL signage network(s) remotely from any location.
- Brings greater visibility of multiplayer applications.
- Cuts ongoing operation costs and helps to ensure signage uptime.
- Gives the live status for individual or groups of players.
- Provides at-a-glance view of iCOMPEL publish and subscribe operations in a channel.
- Generates player performance reports over user-defined periods.
- Reports on iCOMPEL alarm conditions with time stamps.
- Controllable via a Web browser.
- For details, see **blackbox.eu**.

Item	Code
iCOMPEL Deployment Manager (iDM)	
for 24 Subscribers	ICOMP-IDM24
for 49 Subscribers	ICOMP-IDM49
for 999 Subscribers	ICOMP-IDM999

NOTE: Upgrade licenses are also available.

iCOMPEL Remote Control

- For easy, on-demand control of content and volume at the screen.
- Push a button to activate videos, and even layouts and playlists
- Also controls TV channel selection on TV Capture versions.
- Great for providing control of content to local users.
- IR sensor on cord plugs into iCOMPEL unit's USB port.

Item	Code
iCOMPEL Remote Control	ICOMP-RC

iCOMPEL Rackmount and Wallmount Kits

Item	Code
iCOMPEL Rackmount Ears for (1) 2U S Series/P Series Publisher or Subscriber	ICOMP-RACK
iCOMPEL Wallmount Kit for (1) 2U S Series/P Series Publisher or Subscriber	ICOMP-WALL

iCOMPEL Keys for Stream-In/Stream-Out & Enabling Touch

Item	Code
iCOMPEL Keys	
Stream-In	ICOMP-IN
Stream-Out	ICOMP-OUT
USB HID Touchscreen Feature Key	ICOMP-TOUCH

iCOMPEL Wi-Fi Module (Retrofit)

- Adds 802.11a/b/g/n wireless to an existing iCOMPEL unit (factory install only; for details, call Tech Support).

Item	Code
iCOMPEL Wi-Fi Module	ICOMP-WIFI

iCOMPEL S-Video Adapter

- S-Video to Composite video adapter for TV Capture models.

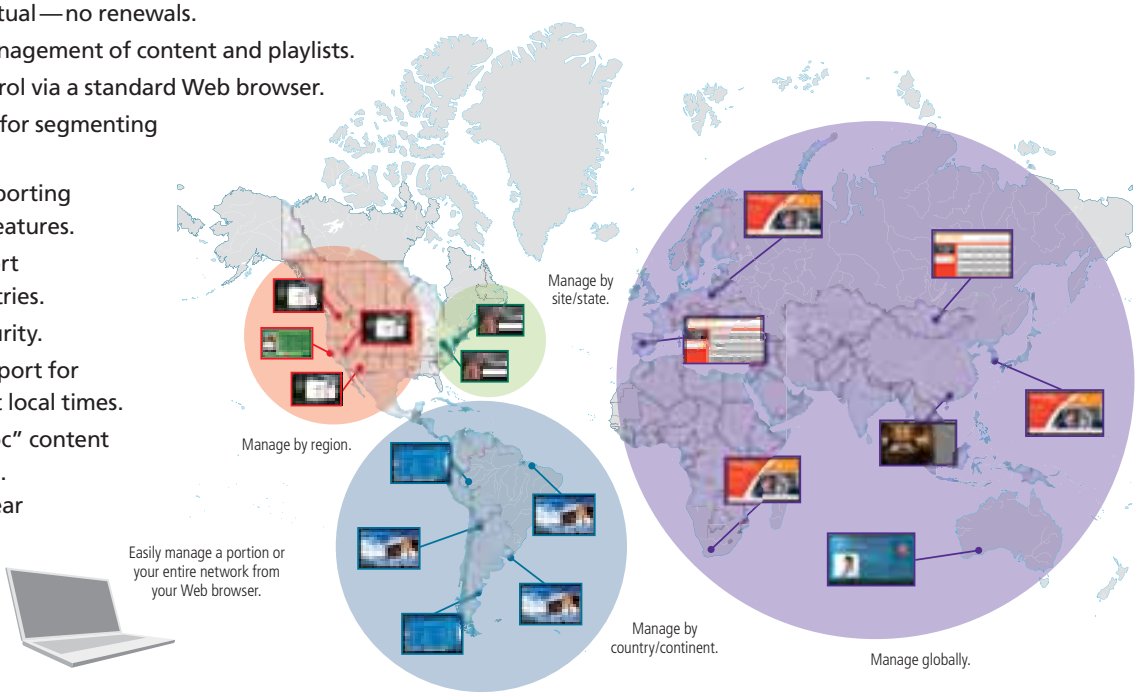
Item	Code
iCOMPEL S-Video Adapter	ICOMP-VID-SV

iCOMPEL EDS for the Enterprise

Deliver the right message at the right time across your global enterprise

- More features and fewer headaches than similarly priced product bundles for enterprise-wide signage.
- Great for large, geographically diverse networks.
- All licenses are perpetual—no renewals.
- Simplified central management of content and playlists.
- Offers complete control via a standard Web browser.
- Group player control for segmenting content distribution.
- Advanced playout reporting and alert reporting features.
- Multilanguage support for use in many countries.
- Enterprise-grade security.
- Global time zone support for playout at the correct local times.
- Supports local "ad hoc" content updates at the screen.
- ✦✦ **WARRANTY** — 1 Year

iCOMPEL™ EDS
BLACK BOX DIGITAL SIGNAGE


Manage by site/state.
Manage by region.
Easily manage a portion or your entire network from your Web browser.
Manage by country/continent.
Manage globally.

iCOMPEL EDS™ gives you total control and visibility of signage content at the corporate, central administrative office, or government agency level.

With the system, you have an easy way to supply professional-caliber content to large signage networks as well as remotely located networks. Through the platform, you can update content from anywhere you have an Internet connection to change presentations, customize messaging for specific audiences, issue alerts, and more.

For each screen, you just need to add an iCOMPEL EDS Subscriber unit.

The iCOMPEL EDS management software holds all your files and designs. Through the software, you send media over the network to any number of iCOMPEL EDS Subscribers—even on the other side of the world. Scaling your network is simply a matter of adding more iCOMPEL EDS Subscribers to your iCOMPEL EDS configuration.

Easy drag-and-drop design tools and an intuitive composer interface for creating content…

Create using the grid-based palette with sophisticated design tools.

The EDS software gives you an intuitive way to create attention-getting signage, scheduling playout, grouping players, and more.

It features a content-centric interface for creating layouts in a snap. This unique composer tool enables you to add special effects to a layout without working within Flash! Use it, for instance, to:

- Set up effects for page transitions, object animations, image reflection, shadowing, rounded corners on objects, and more.
- Create transparent layers via alpha color background settings.
- Adjust, resize, position, and layer zones with a click and drag.
- Position images exactly by keying in coordinates and image sizes.
- Set background color or images.
- Crop images on the fly without modifying the original file.

After a new playlist of screens is created and saved in the composer tool, the system provides you with a window (shown **at right**) for easily managing that playlist.

with this easy-to-scale signage solution.

Simple to get started and control.

Fully manage your signage presentations using playlists and tools, which provide you with easy, drag-and-drop control from any supported Web browser running a Flash plug-in.

From the Playlist Management screen, you can be building screens in minutes, dropping various media into zones within a new template. Add text, tickers, images, videos, multicast streams, Flash, and audio with ease. It supports 1080p video decoding as well as Flash and HTML media natively.

RSS ticker text is easy to add with iCOMPEL EDS. Tickers can be horizontal, vertical, or block style—great for speedy readers annoyed by ticker crawls.

Layout flexibility.

The software supports full-screen and multizone layouts, and enables you to optimize resolutions for maximum display performance. What's more, screens can be in a kiosk touchscreen application for maximum customer interaction—no extra touch licenses need to be purchased; this support is built into the platform. Incorporating multicast video streams into the layout doesn't require a license either.

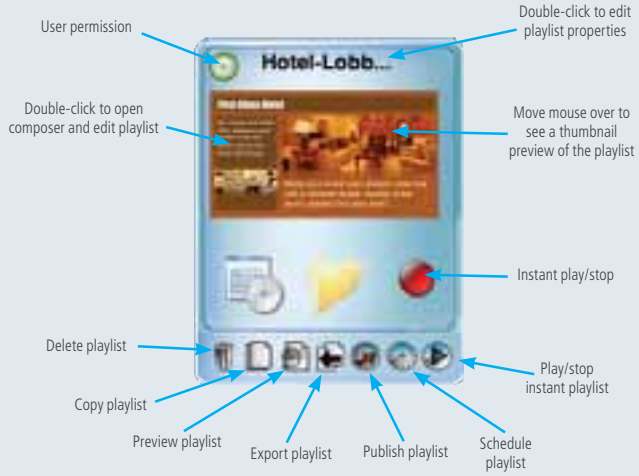
Zone, composer, or full-screen playlists or a queue of playlists can be scheduled for playout at specific times. Every zone in the display layout can play content independently from each other. The iCOMPEL EDS Subscriber automatically synchronizes content and starts playout of scheduled playlists.

Optimized for commercial ad networks.

The system supports aggregates from ad networks, so you can subscribe to a network and set up your iCOMPEL EDS system to play ads at certain intervals in your signage. Or, if you like, you can create zones to display ads directly from advertisers.

In addition to player alert reporting for smooth 24/7 operation, the iCOMPEL EDS supports advanced playout (proof of performance) reporting for customer billing. Plus, through player grouping or meta tagging (license required), you can give media buyers the flexibility to choose where and when their ad is shown. This dynamic function ensures that advertisers get maximum attention at the point of sale.

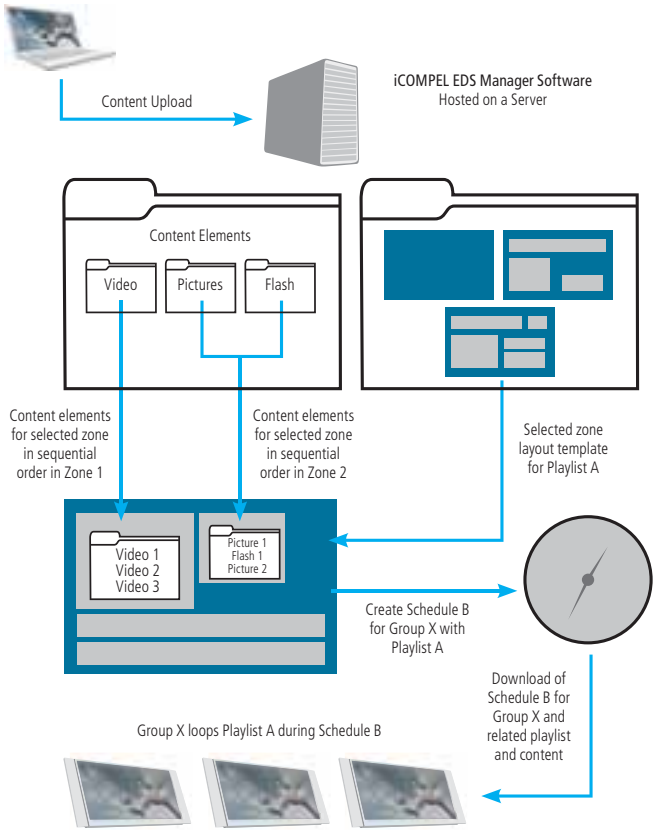
…plus a window for managing playlists.



Where it fits in our digital signage line:

- For large signage deployments with screens in many locations.
- Delivered as a virtual machine for easy scalability.
- Ideal for ad networks requiring playout verification on screens.
- For corporate organizations requiring enterprise-grade security settings.
- For administrators needing to segment content distribution by regions.
- All licenses are perpetual—no year-after-year renewals to worry about.

Typical iCOMPEL EDS workflow:


Content Upload
iCOMPEL EDS Manager Software
Hosted on a Server
Content Elements
Video
Pictures
Flash
Content elements for selected zone in sequential order in Zone 1
Content elements for selected zone in sequential order in Zone 2
Selected zone layout template for Playlist A
Video 1
Video 2
Video 3
Picture 1
Flash 1
Picture 2
Create Schedule B for Group X with Playlist A
Download of Schedule B for Group X and related playlist and content
Group X loops Playlist A during Schedule B

For more on iCOMPEL EDS, see the next page.

iCOMPEL EDS for the Enterprise (Continued)

Key productivity and troubleshooting tools of the iCOMPEL EDS system:

- Drag-and-drop layout, design, and zone manipulation tools.
- Features an interface for monitoring remotely over an IP network.
- Provides a direct link to external info, such as HTML and RSS content.
- Auto-Video/Auto-Picture functions for easier external content updates.
- Enables easy streaming of video channels into playlists and zones.
- Supports quick tiling of images across mulitple screens in video walls (additional equipment is required).
- Supports IPTV content streamed from an external streaming device or network video server.
- Kiosk mode ensures your interactive content is always ready for the next viewer.
- Grid and guidelines enable you to quickly position screen content without gaps between zones.
- The system shows how many players are on-line, offline, or in an error state, and can send e-mail error notifications to a system administrator.

The components of the EDS platform:

iCOMPEL EDS Manager Software License (EDS-M)

- VMware® container for easy loading on an existing server.
- Loaded with tools to create pages and playlists for many screens.
- Pushes screen designs to sites globally and supports ad networks.
- For recommended system requirements, including for applications beyond 100 screens, and to inquire about hosting requirements, please call.
- Also call if you need the software provided on a server that will serve your storage needs now and later.

iCOMPEL™ EDS
BLACK BOX DIGITAL SIGNAGE
MANAGER SOFTWARE LICENSE

iCOMPEL EDS Subscriber with Software License (EDS-SS10)

- Can be connected via Internet or Ethernet network to the server hosting the EDS Manager Software, or set it up to communicate via a TCP/IP link over the Web to the software's server.
- Ships as an appliance—connect display, network, and power, then configure and show your sign.
- Slim form factor makes it great for cramped areas behind a display; or VESA mount it behind the screen with the included bracket.
- Windows® based appliance.
- HDMI and VGA ports, audio jacks, USB ports, and a network port.
- 3D capable with additional equipment and content.
- Supports 802.11b/g wireless Wi-Fi communications.

Mount the subscriber unit on the back of a screen with the included VESA mount, or use it in a tower configuration (stand is included).

Other options:

We also offer an add-on option for incorporating iCOMPEL WDS wearable digital signage (**facing page**) into your iCOMPEL EDS system. This way, you can use a single interface to manage both standard-size signage and portable wearable signage across your enterprise.

Want all the features of the iCOMPEL EDS in a hardware-based platform for publishing content to fewer than 10 screens? Then see **blackbox.eu** for our iCOMPEL EDS Publisher with Software License (EDS-PP30). With this version, the EDS software comes preloaded in a 2U-high rackmountable appliance. For each screen, you'll just need to add an iCOMPEL EDS Subscriber with Software License (EDS-SS10).

Item	Code
First, order your VMware® server application…	
iCOMPEL EDS System Manager Software License	EDS-M
…then, for each screen, order a subscriber:	
iCOMPEL EDS Subscriber with Software License	EDS-SS10
✦ Includes (1) subscriber unit, (1) HDMI cable, (1) Ethernet patch cable, (1) vertical chassis stand, (1) VESA mount, and (1) power supply.	
To add wearable signage, order for each user…	
New iCOMPEL WDS Player for EDS or MSM *(for details, see the **facing page**.)*	WDS-M

Learn more at blackbox.eu

iCOMPEL WDS Wearable Digital Signage

Engage, promote, and get sweet results with video presentations shown on 2.4" LCD screens.

iCOMPEL™ WDS
WEARABLE DIGITAL SIGNAGE

- Communicate a value proposition without spoken words.
- Great for trade shows, retail, hospitality, restaurants, and sales calls.
- Create your video and slideshow presentations via a Web portal.
- Use players on their own or integrated with the iCOMPEL EDS (facing page) for global content control of players worn by users anywhere.
- Also available: appliance for hosting WDS securely on-site.
- Includes magnetic clip and lanyard for wearing.
- ✦✦WARRANTY — 1 Year

new

Think small for big results. Delivering video messaging through screens no bigger than a business card, iCOMPEL™ WDS enables you to reach customers in an unobstructed way.

Those players access the EDS Manager for media. You can have your graphics uploaded to the interface and a WDS presentation ready to go in minutes.

It also gives you the creative freedom to customize a presentation how you like. Compile text, images, Flash, and video into a slideshow using our Composer editor; then add transitions, effects, and durations; and prepare content for a player. Content can range from simple text and JPG images in a slideshow to full-motion video.

The players support an average playback time of 12–15 hours, rechargeable via a USB connection or with the included charger. Each player also comes with a client tool, which an end user loads on his or her PC to access and store content.

We also offer a WDS version for use with our iCOMPEL EDS system (**facing page**). This way, content for many players worn by associates around the country—or around the world—can be remotely updated for consistent branding and messaging.

Or order our iCOMPEL EDS MS Manager appliance if you want to host content for many players on-site. It's a must-have for retail chains and large companies, as well as organizations with strict data security requirements. It's also a way for you to get WDS signage while using standard digital signage from a company other than Black Box.

Create your WDS presentation with user-friendly tools...

...then upload it to your player(s).

Learn more at blackbox.eu

Each player comes with:

- Magnetic clip for fastening to clothing.
- Lanyard holder for both vertical and horizontal use.
- Mini-USB cable for updates and charging.
- MSM Client tool on CD.
- AC charger (100–240 VAC, 5 VDC).

CE Approval — Yes
RoHS — Yes

Item	Code
Order a player for each user on your team...	
iCOMPEL WDS Player for msm.blackbox.com	WDS-H
✦ Includes (1) year of hosting.	
To add WDS to iCOMPEL EDS, see facing page.	
Or order an appliance to store all your WDS content and configuration data on-site:	
iCOMPEL EDS MS Manager for WDS	EDS-MSM

*NOTE: Players must be ordered separately. The appliance works with any number of WDS-M players on the **facing page**.*

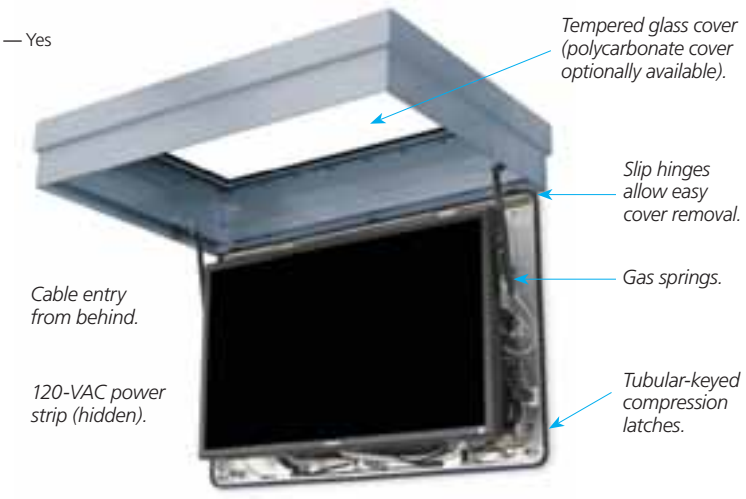
Display Enclosures

Protect your expensive displays indoors and out!

- Fully sealed and tamper-resistant, key-locked enclosures for protecting expensive LCD screens in digital signage applications.
- Anti-reflective, 4-mm tempered glass window. Enables clear viewing when the cover is closed.
- Cover is secured with (4) tubular keyed compression latches.
- Durable aluminum body with polyester powder painted finish. Custom colors available to match your organization's color scheme.
- Integrated air movement. Display depth allows air to circulate at the front of the window. AC cooling and fan heating available as options.
- Kits enable various mounting options on walls, posts, and ceilings.
- ✦✦ **WARRANTY** — 2 Years

ENC-42

RoHS — Yes


Tempered glass cover (polycarbonate cover optionally available).
Slip hinges allow easy cover removal.
Gas springs.
Tubular-keyed compression latches.
Cable entry from behind.
120-VAC power strip (hidden).

Item	Code
Display Enclosures, Silver	
30"–32" Displays	ENC-32
40"–42" Displays	ENC-42
46"–47" Displays	ENC-47
50"–52" Displays	ENC-52
You may also need a mounting kit...	
Tilt Wallmount Kit	ENC-TILT
Wallmount Arm Kit	ENC-ARM
Post Mount Kit	ENC-POST
Wallmount Kit	ENC-WALL
Ceiling Mount Kit	ENC-CEILING

NOTE: Also available: Many customized enclosures with heaters and AC cooling, and models for touchscreens, back-to-back displays, and more. For details, call Tech Support.

Great for use in:

- Convention centers
- Airports
- Stadiums and arenas
- Shopping malls
- Transit stations
- Schools
- Hotels and resorts
- Government offices
- Hospitals
- Corporate entrances

Click and find at blackbox.eu.
Specifications for all enclosures.

NEC/3M iCOMPEL Touchscreen LCDs (USB)

Take your iCOMPEL signage to the next level with reliable touch interactivity.

V Series

P Series

- LCDs with 3M MicroTouch DST overlays.
- Fast response, 99% accuracy.
- Touch unaffected by surface debris.
- Chemically strengthened glass substrate.
- Adjust to room brightness automatically.
- Low consumption. Energy Star 5.0 rated.
- Manage via RS-232 or Ethernet ports.
- Optimized to work with our iCOMPEL™ platform on pages 12–17.
- Windows® 7 certified.
- ✦✦ **WARRANTY** — 3 Years

Click and find at blackbox.eu.
More specs, plus (non iCOMPEL) models with RS-232 input instead of USB input

Use these to set up dynamic touch displays for wayfinding boards, customer self-service stations, retail PoS/PoP displays, or any place you want a two-way conversation with an audience.

The LCDs use 3M® MicroTouch™ Dispersive Signal Technology (DST) for fast and accurate touch response in busy, heavy-use applications.

The screens recognize touch by interpreting bending waves within the glass substrate. When someone puts a finger on the glass, it creates a bending wave within the substrate, radiating out to the screen corners. Piezoelectric sensors then convert the energy of the wave into electrical signals, which are analyzed by a DSP-based controller board to determine precise touch location.

CE Approval — Yes
RoHS — Yes

V Series

- Budget-friendly, standard-bezel screens for areas without high temperatures.
- Boast brightness of 450 cd/m2 (32", 46", and 55" models) or 500 cd/m2 (42" model).
- Contrast ratio of 3000:1 (32", 46", and 55" models) or 1300:1 (42" model).
- Support HD resolutions up to 1366 x 768 (32" model) or 1920 x 1080 (42", 46", and 55" models).
- Ticker feature. Stream text across bottom.
- Digital HDMI and DVI connectors and analog VGA, Composite, and S-Video inputs.
- Stereo audio through 15-W speakers.

P Series

- Industrial-strength, thin-bezel screens with additional thermal protection.
- Support Full HD resolutions up to 1920 x 1080.
- 15-W stereo audio amplifier.
- With 3000:1 (40" and 55")/4000:1 (46") contrast ratios and 8-ms (40" and 55")/16-ms (46") response times.
- Expansion card slot.

Item	Code
NEC V Series/3M iCOMPEL Touchscreen LCDs (USB)	
32"	IC-V3212DST-USB
42"	IC-V4212DST-USB
46"	IC-V4612DST-USB
55"	IC-V551DST-USB
NEC P Series/3M iCOMPEL Touchscreen LCDs (USB)	
40"	IC-P401DST-USB
46"	IC-P461DST-USB
55"	IC-P551DST-USB

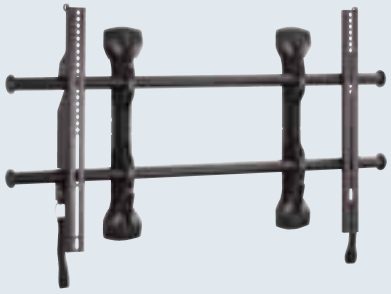
Check out these other display and mounting accessories at blackbox.eu.

Displays and Monitors

See our large displays for digital signage and command and control applications, as well as monitors for workstations:

- NEC MultiSync EA Series LCDs
- NEC MultiSync EA Series Widescreen LCDs
- Samsung 50" Plasma Display
- Narrow-Bezel Displays

Wall Display Mounts



For mounting digital signage screens and monitors on walls, we offer a full selection of wall mounts from Peerless and Chief:

- Pull-Out Display Mounts
- Fixed Display Mounts
- Fixed Micro-Adjustable Display Mounts
- Tilt Micro-Adjustable Display Mounts
- Universal Tilt Display Mounts
- Flat Wall Display Mounts
- Tilt Display Mounts for Portrait Orientation
- Articulating Wall Arms for Displays

Buyer's Guide | Digital Extenders

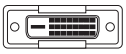
For product details, see the **page** listed.

Standard	Solution/Description	Max. Resolution	Media	Max. Distance	Audio	Serial	Code	Specific Component, page
HDMI®	**XR HDMI and IR Extender** HDBaseT® based transmitter/receiver combo for extending uncompressed HD video and audio; also supports IR extension/CEC passthrough.	1080p HD	CATx	328 ft.	•	—	VX-HDMI-TP-100M	XR HDMI and IR Extender, p. 26
	3D HDMI CATx Extender A low-priced, transmitter/receiver combo for extending 1080p 24-bit color and 3D resolutions; daisychainable when used with VSPX-HDMI-CSRX (**below**).	1080p HD	CATx	Over CAT6: 24-bit 1080p: 130 ft.; 24-bit 1080i/720p: 200 ft.	•	—	VX-HDMI-TP-3D40M	3D HDMI CATx Extender, p. 26
	MediaCento™ HX An easy, economical way to split and extend uncompressed HDMI and single-link, 225-MHz (6.75-Gbps) video; supports 3D; daisychainable when ordered with VSPX-HDMI-CSRX receiver.	1080p HD	CATx	1080p: 130 ft.; 1080i/720p: 200 ft.; Daisychain up to to 1968 ft.	•	—	VSPX-HDMI1X4-TX	HX 1 x 4 Transmitter, p. 27
							VSPX-HDMI-RX	HX Standard Receiver, p. 27
							VSPX-HDMI-CSRX	HX Cascadable Receiver, p. 27
	MediaCento™ IPX Multicast A digital solution for the future at an analog price; features visually lossless compression for transmitting HD video and audio over a TCP/IP network to up to 256 screens.	1080p HD	TCP/IP LAN	Dependent on network and switching equipment	•	•	VX-HDMI-IP-MTX	IPX Multicast Transmitter, p. 28
							VX-HDMI-IP-MRX	IPX Multicast Receiver, p. 28
	3D HDMI Fiber Extender A transmitter/receiver combo for extending 1080p HD, including for 3D, over multimode fiber cable; also supports IR passthrough.	1080p HD	MM fiber	1 mi.	•	—	VX-HDMI-FO	3D HDMI CATx Extender, p. 30
DVI	**DVI-D Extender** In-line extender for boosting DVI-D signals over DVI cable.	1080p HD; 1920 x 1200: DVI	DVI	To display: 50 ft.; From source: 50 ft.	—	—	AC554A	DVI-D Extender, p. 29
	CATx DVI-D with DDC SL Extender Kit Kit for extending DVI-D and emulated DDC signals over CAT5/CAT5e/CAT6 cable.	1280 x 1024 DVI at 164 ft.; 1600 x 1200 DVI at 100 ft.; 1920 x 1200 DVI at 32.8 ft.	CATx	164 ft.	—	—	ACS2001A-R3	CATx DVI-D with DDC SL Extender Kit, p. 29
	DVI-D Extender with Audio and EDID Kit for extending DVI, EDID monitor info, and audio over CAT5/CAT5e/CAT6 cable	1080p HD; 1920 x 1080: DVI	CATx	920 x 1080: 150 ft.; Most other resolutions: 300 ft.	•	•	AC2000A	DVI-D Extender with Audio and EDID, p. 29
	Multi DVI-D Extenders over CATx or Fiber Transmitters and receivers for extending DVI or DVI/stereo audio/duplex serial signals over CATx cable or, with optional fiber module sets, over optical fiber.	1080p HD; 1600 x 1200: DVI	CATx or fiber with optional fiber modules installed	600 ft. over CATx; With optional fiber module sets: 1640 ft. over multimode fiber; 6.2 mi. over single-mode fiber	—	—	AC1100A	DVI-D Only Transmitter, p. 30
					—	—	AC1102A	DVI-D Only Receiver, p. 30
					•	•	AC1103A	DVI-D/Stereo Audio/ Addressable Duplex RS-232 Transmitter, p. 30
					•	•	AC1104A	DVI-D/Stereo Audio/ Addressable Duplex RS-232 Receiver, p. 30
					Dependent on transmitter and receiver used		AC1105A	Multimode Tx/Rx Pair, p. 30
							AC1106A	Single-Mode Tx/Rx Pair, p. 30
	Mini Extenders for DVI-D and Stereo Audio over Fiber Transmitter/extender kit and splitter options for extending HD-quality DVI-D video, including 24-bit true color depth, plus stereo audio signals over a single strand of optical fiber; daisychainable with optional 2-port splitter.	1080p HD; 1920 x 1200: DVI	MM or SM fiber	0.9 mi.	•	—	AVX-DVI-FO-MINI	Mini Extender Kit, p. 31
							AVX-DVI-FO-SP8	Mini Extender 8-Port Splitter, p. 31
							AVX-DVI-FO-SP4	Mini Extender 4-Port Splitter, p. 31
							AVX-DVI-FO-SPCS	Mini Extender 2-Port Daisychainable Splitter, p. 31
							AVX-DVI-FO-MINI-RX	Mini Extender Receiver, p. 31

For other digital video extenders, see page 64 in the Legacy Solutions section.

Black Box Explains

DVI and HDMI interfaces.


DVI-D, Dual Link

DVI (Digital Video Interface) is the standard digital interface for PCs (in contrast to HDMI, which is more commonly found on HDTV devices).

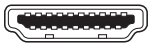
The DVI standard is based on transition-minimized differential signaling (TMDS). There are two DVI formats: single-link and dual-link. Single-link cables use one TMDS-165 MHz transmitter, and dual-link cables use two. The dual-link cables double the power of the transmission. A single-link cable can transmit a resolution of 1920 x 1200 vs. 2560 x 1600 for a dual-link cable.

Several types of DVI connectors are available, most commonly:

DVI-D, a digital-only connector for use between a digital video source and monitors. DVI-D eliminates the analog pins.

DVI-I (integrated), which supports both digital and analog RGB connections. It can transmit either a digital-to-digital signal or an analog-to-analog signal. It is used on products instead of separate analog and digital connectors. If both connectors are DVI-I, you can use any DVI cable, but a DVI-I is recommended. (NOTE: For a DVI-I to DVI-D display converter, see **page 62**).

DVI-A (analog), which is used to carry a DVI analog signal from a computer to an analog VGA device, such as a monitor. If one or both of your connections are DVI-A, use this cable. If one connection is DVI and the other is VGA HD15, you need a cable or adapter with both connectors as long as you do not require an active analog/digital connector.



HDMI (High-Definition Multimedia Interface®) was the first digital interface to combine uncompressed HD video, up to eight channels of uncompressed digital audio, and intelligent format and command data in a single cable. It is now the defacto standard for consumer electronics and HD video, although it is beginning to face competition from the newer DisplayPort interface.

HDMI offers an easy, standardized way to set up AV equipment over one cable. Use it to connect equipment such as digital signage players, set-top boxes, and AV receivers with HDTVs and video projectors. If the HDMI equipment supports higher-resolution HDMI standards, you can also connect 3D displays.

HDMI also supports multiple audio formats from standard stereo to multichannel surround sound. In addition, the interface provides two-way communications between the video source and HDTV, enabling simple, remote, point-and-click configurations.

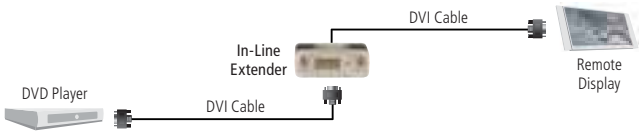
It also supports HDCP (High-bandwidth Digital Content Protection), which prevents the copying of digital audio and video content sent over HDMI cable. If you have a device between the source and the display that supports HDMI but not HDCP, your transmission won't work, even over an HDMI cable.

HDMI is backward compatible with DVI equipment; a DVI-to-HDMI adapter can be used without a loss of video quality to enable the connection. Because DVI only supports video signals, not audio, the DVI device simply ignores the extra audio data.

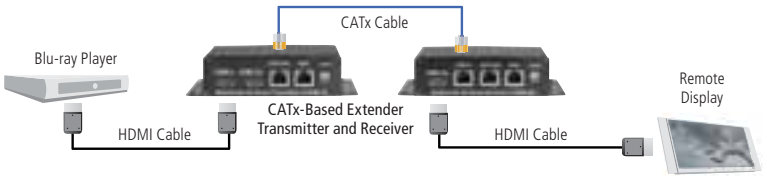
Black Box Explains

Digital extension technologies.

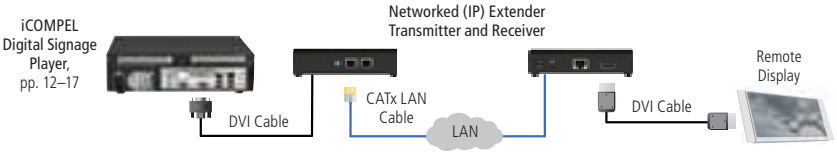
In-line extenders, installed in the middle of a link or as transmitter/receivers, extend signals over their native cabling with no signal conversion occurring.



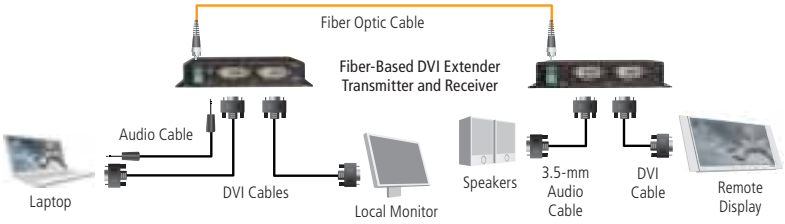
Non-networked CATx extenders use transmitters and receivers to extend converted signals over ordinary (non-networked) UTP cabling. They're very cost-effective and enable much longer distances than what's ordinarily possible with digital video cabling.



Networked IP extenders use transmitters and receivers to extend video signals over a network's UTP infrastructure. They work by packetizing media streams for delivery over Ethernet wiring.

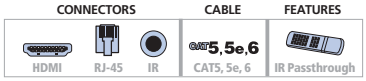


Fiber-based cabling extenders use transmitters and receivers to extend digital signals over secure, interference-free (non-networked) optical fiber. These extenders enable you to deliver video at much longer distances than copper.



XR HDMI and IR Extender

XR: the eXtended Range HDMI solution with enhanced control.



- Uses a single CATx run, reducing cable clutter and simplifying signage setup.
- Sends uncompressed HD video and audio up to 328 feet (100 m).
- Supports IR extension/CEC passthrough for control at the screen.
- Provides 10.2 Gbps of HDMI video bandwidth on all channels.
- HDBaseT® based extension for greater video capacity.
- Supports 1080p at 60 Hz and 48-bit pixel rates.
- HDCP compliant and Blu-ray ready.
- ✦✦ **WARRANTY** — 1 Year

This extender sends uncompressed HD video, audio, and control signals up to 328 feet (100 m) over one CAT5e/CAT6 cable.

Extending over a single CAT5e/6 cable, the transmitter-receiver combo makes it easy to send digital 1080p video and audio plus IR control signals up to 328 feet (100 m).

The extender supports 340 MHz/3.4 Gbps of HDMI video bandwidth per channel and 10.2 Gbps on all channels. It transmits uncompressed full HD digital video and audio plus data control signals—all over a single copper cable.

By using just one CATx run to reach a remote screen, you can get away with using an existing Ethernet drop for multimedia distribution.

You also get simplified control. The extender supports CEC passthrough and source device control via a built-in IR extender function. IR commands received at the display extend back to the source. A receptionist stationed near a screen, for instance, can use an HDTV's remote controller to change settings on a source device in another room.

What's more, the XR HDMI and IR Extender uses HDBaseT based technology, so it has the capacity to extend both HDMI and control signals, and supports the resolutions of current and emerging video displays.

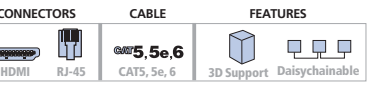
NOTE: Distance depends on the characteristics and quality of the cable and the type of HDMI source and display. For full specifications, see ***blackbox.eu****.*

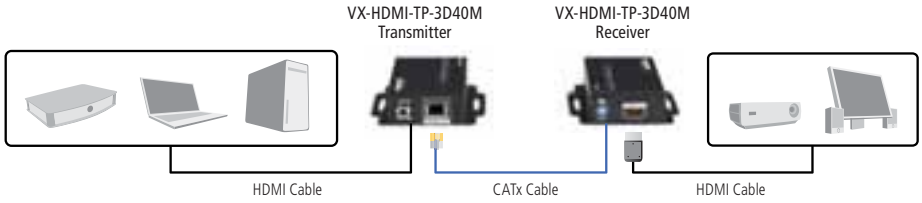
Item	Code
XR HDMI and IR Extender	VX-HDMI-TP-100M

✦ Includes (1) transmitter, (1) receiver, (2) power supplies, (1) IR emitter, (1) IR receiver, and and wallmounting hardware.

3D HDMI CATx Extender

Reach HDTV and 3D screens simply and affordably.





- Your low-priced solution for locating signage in all areas of your business.
- A fully transparent HDMI® extender designed to support all resolutions.
- Extends up to 130 feet (40 m) from the HDMI source at 1080p 24-bit color.
- Transmits HDMI with zero compression.
- Order the VSPX-HDMI-CSRX to daisychain up to 10 receivers.
- HDMI Deep Color capable.
- HDCP 1.1 compliant and Blu-ray ready.
- ✦✦ **WARRANTY** — 1 Year

This extender makes it easy to extend digital video from a source to a distant 3D screen in a lobby or high-traffic area.

Over a single CAT6, it extends 1080i/720p with 24-bit color depth up to 200 feet (60 m) and 24-bit Full HD 1080p up to 130 feet (40 m). It also works over CAT5e at shorter distances. And for 36-bit 1080p color, it can go up to 65 feet (20 m).

Configuration is minimal. You select your video and audio type or activate learning of EDID info from the remote display using the transmitter's rotary switch. It also features eight-level equalization control for quality control.

Plus, the extender features 7.1-channel surround sound audio support and electrostatic-discharge (ESD) protection.

NOTE: Maximum distance depends on the quality of the cable and type of source and display. For full specifications, see ***blackbox.eu****.*

Item	Code
3D HDMI CATx Extender	VX-HDMI-TP-3D40M

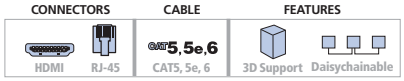
✦ Includes (1) transmitter, (1) receiver, (2) power supplies, and wallmounting screws.

To daisychain (up to 10 receivers total), order:

MediaCento HX Receiver, Cascadable	VSPX-HDMI-CSRX

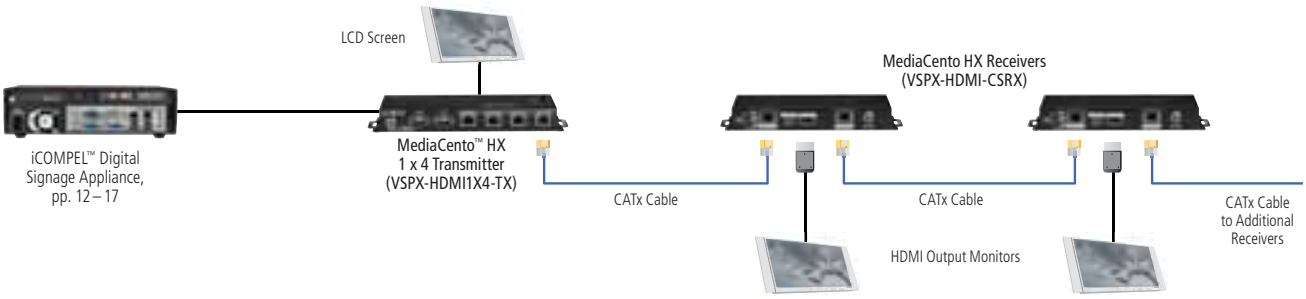
MediaCento HX

An easy, economical way to split and extend AV signals to digital signage in different areas.



- Your solution for reaching multiple HD and 3D screens.
- Uses inexpensive CAT5e/CAT6 cable for uncompressed HDMI® signal extension.
- Supports single-link, 225-MHz (6.75-Gbps) video bandwidth.
- Features a local HDMI output for monitoring or cascading units.
- Extends High-Speed HDMI and Deep Color resolutions.
- Silicon Image® chipset for wide compatibility and performance.
- HDCP compliant and Blu-ray ready.
- Multiple features for EDID support.
- Durable chassis with mounting tabs.
- ✦✦ **WARRANTY** — 1 Year

VSPX-HDMI1X4-TX



Split and extend HDMI video and audio from a single source input over a single solid CATx cable run with MediaCento™ HX.

Use it to display video simultaneously on four different screens in lobbies and other areas of your organization. Or daisychain up to 10 VSPX-HDMI-CSRX receivers for each output to reach up to 40 displays.

The system enables the distribution of Full HD (1080p) video as far as 130 feet (40 m) and 720p/1080i video up to 200 feet (60 m) over each link. Or you can daisychain up to 10 receivers to reach a total distance of up to 1968 feet (600 m)!

And because MediaCento HX supports HDCP communications, you can also extend content from a Blu-ray player or other protected-content source.

Pure digital transmission over CATx.

The transmitter provides unaltered and uncompressed digital transmission. MediaCento HX supports single-link, 225-MHz (6.75-Gbps) bandwidth for sharp, full-motion rendering; synchronized video and audio with no perceivable delay; and Deep Color resolutions for enhanced color depth.

Because MediaCento HX can extend over solid copper cabling already installed in your building, it's easy to put your HD screens in spaces where your target audiences frequent—and you don't have to pull new cables and/or sacrifice video quality in the process. It's perfect for applications that require distance for high-quality video resolutions on HDTV and 3D displays.

Local monitoring and quality control.

To monitor video locally, simply plug an HDMI display into the local HDMI output on the transmitter. Or use that port to cascade to another transmitter for additional HDMI output. (A cascadable receiver is available.)

The MediaCento HX system also has controls for maximizing quality and optimizing the signal over extended distances. You simply fine-tune the signal using a digital equalization control dial on the MediaCento HX Receiver.

The MediaCento HX supports high-quality sound, too. As part of the HDMI signal, it transmits 7.1-channel surround sound stereo audio.

NOTE: Distance depends on the characteristics and quality of the cable and the type of HDMI source and display. For full specifications, see ***blackbox.eu.***

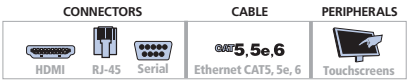
MediaCento HX is great for:

- Broadcast studios.
- Multimedia and graphics post-production.
- Medical imaging video distribution.
- Sharing video with classrooms in schools.
- Retail digital signage deployments in stores and malls.
- Command and control centers.
- Corporate video sharing and training.

Item	Code
MediaCento HX 1 x 4 Transmitter	VSPX-HDMI1X4-TX
Also order a receiver for each remote screen:	
MediaCento HX Receiver	
Standard	VSPX-HDMI-RX
Cascadable	VSPX-HDMI-CSRX

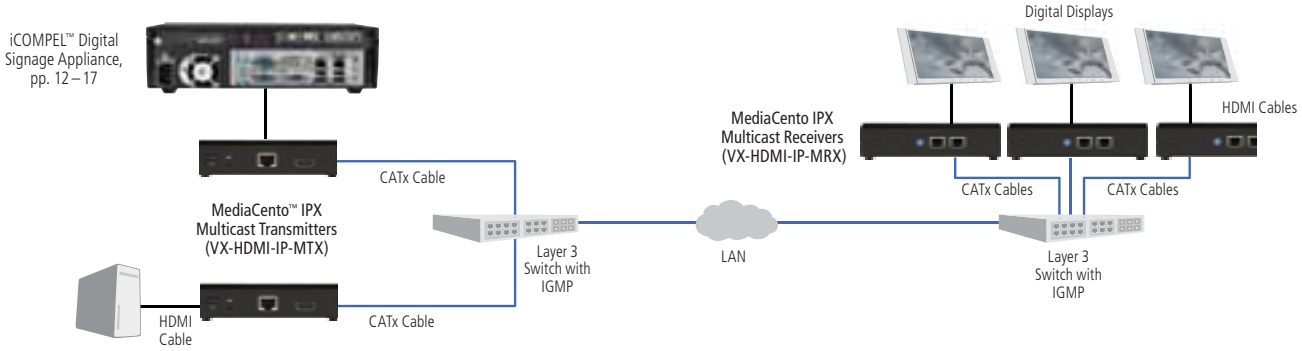
MediaCento IPX Multicast

Multicast HD video over an IP network to distant screens.



- A digital solution for the future at an analog price!
- Transmits HD video and audio over an Ethernet network to up to 256 screens.
- Uses existing standards-based Ethernet technology and TCP/IP protocols.
- Provides very high image quality with visually lossless compression.
- A single transmitter can deliver multimedia to hundreds of displays.
- EDID copy function for optimal PC-to-screen performance.
- Virtually no distance limitations. Can go as far as your network reaches.
- Supports serial connections to switch screens on/off or use with touchscreens.
- HDCP compliant and Blu-ray ready.
- ✦✦**WARRANTY** — 1 Year

VX-HDMI-IP-MRX



This attractively priced IP streaming solution multicasts HDMI® video and audio to up to 256 screens on a network. You need just one transmitter and up to 256 receivers.

It's ideal for distributing digital signage content or other HD video and audio across an Ethernet network. Because the MediaCento™ IPX Multicast Transmitter and Receiver(s) install directly into your existing LAN infrastructure, integration is easy. There's no need to run expensive dedicated links from a back room to digital signage in lobbies.

The extender transmits up to 330 feet (30.6 m) per link, but goes even longer with additional repeaters or switches added to the mix. You can even use fiber with media converters to go several miles if needed. Its signal is completely digital from end to end, so your digital content is never compromised.

Lossless compression for HD extension.

MediaCento IPX Multicast features IGMP support and packetizes signals so all your HD source content can be delivered anywhere you want over Ethernet wiring (or, if your network supports it, across dedicated WAN links).

It works in point-to-point or point-to-multipoint configurations. Just plug in as many receivers as you need at your remote screens.

Featuring visually lossless compression, the MediaCento IPX Multicast units transmit broadcast-quality video and audio, and support Full 1080p resolution no matter what the distance or the number of screens, as well as all common PC resolutions (XGA, SXGA, UXGA, WSXGA) up to 1920 x 1080.

Extremely easy to set up and use.

MediaCento IPX also has an RS-232 port for configuration and control, and for extending bidirectional control signals. Use this serial link to switch screens on or off or use with touchscreens.

There's no need to configure any IP settings (although more experienced users can do that from the serial port if needed). Simply use rotary switches to set the transmitter and receivers to the same channel and all IP multicasting settings are automatically configured; then just connect your source, your display(s), and a network switch. It's ready to go!

MediaCento IPX is great for:

- Any digital signage application with screens in different buildings or stores.
- Distributing high-quality medical imaging video across a hospital campus.
- Streaming video to classrooms in schools.
- Multicasting video in command and control room setups.
- Corporate video sharing and training.

NOTE: For the best performance, use with a Layer 2 or 3 switch with IGMP. For details, call Tech Support.

Item	Code
MediaCento IPX Multicast	
Transmitter	VX-HDMI-IP-MTX
Receiver	VX-HDMI-IP-MRX

DVI-D Extender

A simple, plug-and-play way to link a DVI-D display up to 100 feet away.

CONNECTORS: DVI-D | CABLE: Native

- Boost your DVI-D signals up to 50 feet (15 m) on each side of the extender.
- Supports HD resolutions of 1080p.
- Eliminates pixelation, sparkles, or loss of video on cable links longer than 15 feet (5 m).
- Supports DVI-D single link or DVI-D dual link.
- HDCP compatible.
- ✦✦WARRANTY — 2 Years

CE Approval — Yes
RoHS — Yes

This handy in-line extender enables you to boost DVI-D video up to 50 feet (15 m) on each side. Use it, for example, to link a media player, PC, or other video source to an HDTV or a plasma or LCD screen. Even better, the extender corrects signal degradation in long DVI runs.

Item	Code
DVI-D Extender	AC554A

CATx DVI-D with DDC SL Extender Kit

Send DVI-D signals up to 164 feet with this affordable solution—great for imaging applications.

CONNECTORS: DVI-I | CABLE: CAT5, 5e, 6

- A cost-efficient solution for overcoming DVI cable limits by using CAT5/5e/6 cable instead.
- Ideal for broadcast and graphics studios, R&D labs, and medical imaging applications.
- Supports DDC emulation.
- ✦✦WARRANTY — 1 Year

Take single-link DVI-D digital video farther for less by using CAT5/5e/6 cable. This extender kit supports clear video resolutions of 1920 x 1200 @ 60 Hz up to 100 feet (30 m) and 1280 x 1024 @ 60 Hz up to 164 feet (50 m).

Plus, it's easy to install in your application. Just connect the DVI-D output of your PC with the local unit and your display with the remote unit; then connect both with the CATx link cable and turn on power.

NOTE: Extends digital video only.

CE Approval — Yes
RoHS — Yes

Item	Code
CATx DVI-D with DDC SL Extender Kit	ACS2001A-R3

✦ Includes (1) transmitter, (1) receiver, and (1) universal power supply.

DVI-D Extender with Audio and EDID

Extend DVI and EDID monitor info up to 300 feet over CAT5e or CAT6 cable!

CONNECTORS: DVI-I | CABLE: CAT5,5e,6 | PERIPHERALS: Speaker, Serial

- Uses inexpensive CAT5e or CAT6 cable to extend digital DVI video.
- Reads EDID information, optimizing the display to the fullest capability with the video card.
- Also extends stereo audio and bidirectional serial data.
- ✦✦WARRANTY — 2 Years

Take DVI digital video farther than what's possible with ordinary DVI cable. The DVI-D Extender with Audio and EDID transmits PC video up to 300 feet (90 m) over CAT6 and 200 feet (60 m) over CAT5e. It supports 1920 x 1080 PC resolutions at shorter distances.

For HDTV, the DVI-D Extender with Audio and EDID extends 1080p video up to 150 feet (45.7 m) over CAT6 and 100 feet (30 m) over CAT5e. Lower HD resolutions (480p to 1080i) go farther, up to 300 feet (90 m) over CAT6.

What's more, for optimized video-card/display communications, the extender reads EDID information from a monitor connected to either the local DVI output port or the DVI port on the remote unit. EDID info learned from an output device can be used to emulate that actual device.

Plus, the extender can be controlled locally from the front panel, remotely using serial commands, or using its GUI software.

NOTE: Extends digital video only.

CE Approval — Yes
RoHS — Yes

Item	Code
DVI-D Extender with Audio and EDID	AC2000A

✦ Includes (1) local unit, (1) remote unit, and (1) serial control adapter.

Multi DVI-D Extenders over CATx or Fiber

CONNECTORS: DVI-D, 4-Pin Phoenix, 5-Pin Phoenix, RJ-45 | CABLE: CAT5,5e,6, Multimode-LC, Single-Mode-LC | PERIPHERALS: Speaker | FEATURES: Daisychainable

Extend DVI video plus stereo audio and pollable serial control signals over CATx or fiber.

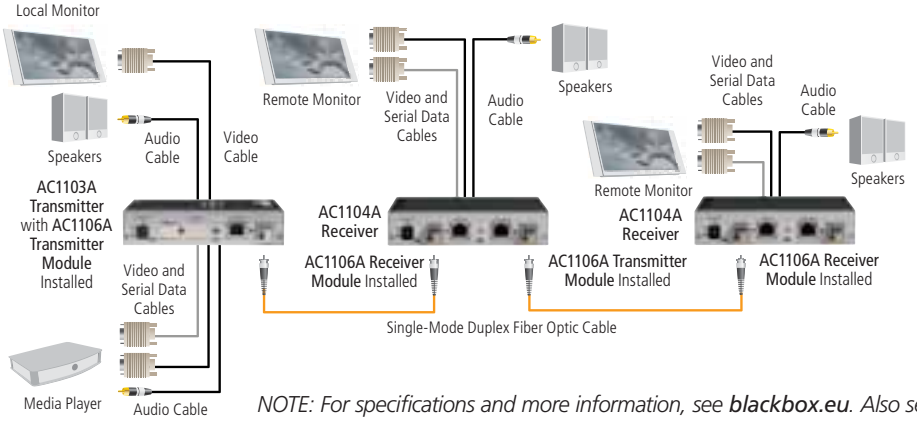
- As CATx-based extenders, distribute HD 1080p DVI video up to 600 feet (183 m) over ordinary UTP.
- Add multimode fiber modules to up to 500 meters (1604.4 ft.) or single-mode fiber modules to go as far as 10 kilometers (6.2 mi.).
- Addressable RS-232 models support pollable, full-duplex serial control of displays in a point-to-multipoint or multipoint network.
- Daisychainable. Send signals from a single source to many screens.
- ✦✦WARRANTY — 1 Year

Front view (with optional fiber module installed): top: AC1100A; bottom: AC1102A

Rear view: left: AC1100A; right: AC1103A

Transmit high-definition DVI over copper or fiber with our Multi DVI-D Extenders. The flexible, daisychainable extenders support all VESA modes to 1600 x 1200, as well as full HDTV formats up to 1080p.

To add stereo audio and serial control, order stereo audio/addressable duplex RS-232 models. They enable you to independently control each display, whether in a point-to-multipoint or multipoint distribution network.



CE Approval — Yes
RoHS — Yes

Item	Code
Multi DVI-D CATx Extenders	
DVI-D Only	
Transmitter	AC1100A
Receiver	AC1102A
DVI-D/Stereo Audio/Addressable Duplex RS-232	
Transmitter	AC1103A
Receiver	AC1104A
To convert a transmitter/receiver for extending over fiber instead of CATx, order...	
Multi DVI-D Fiber Module Sets	
Multimode Duplex Transmitter/Receiver Pair	
LC	AC1105A
Single-Mode Simplex Transmitter/Receiver Pair	
LC	AC1106A

NOTE: For specifications and more information, see ***blackbox.eu****. Also see our site for our full line of fiber cables.*

3D HDMI Fiber Extender

CONNECTORS: HDMI | CABLE: Multimode-SC | PERIPHERALS: Speaker | FEATURES: IR Passthrough

Extend lossless HDMI greater distances and get support for new 3D screens.

- Sends video up to 1.6 kilometers (1 mi.) at 1080i or 0.8 kilometers (0.5 mi.) at 1080p over multimode fiber.
- Pure digital transmission with zero compression.
- HDCP compliant and Blu-ray ready.
- IR extending function available.
- ✦✦WARRANTY — 1 Year

The 3D HDMI Fiber Extender enables you to extend HDMI video and integrated digital audio up to 1.6 kilometers (1 mi.) away from a source with a single duplex fiber cable.

This extender is perfect for applications that require greater distance, high-speed transmission, real-time high video resolution, security, and noise immunity.

Plus, it features an HDMI passthrough port on the transmitter and dual HDMI outputs on the receiver.

HDMI displays can be optimized up to the maximum resolution of Full HD (1920 x 1080)/WUXGA (1920 x 1200)/UXGA (1600 x 1200) with integrated HDMI audio.

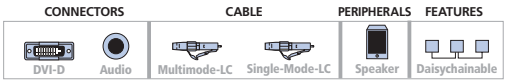
CE Approval — Yes
RoHS — Yes

Item	Code
3D HDMI Fiber Extender	
	VX-HDMI-FO

✦ Includes (1) local unit, (1) remote unit, (1) IR emitter, (1) IR receiver, (2) power supplies, (1) 2-m (6.5-ft.) SC/SC fiber patch cable, (2) sets of footpads, and (8) mounting magnets.

Mini Extender for DVI-D and Stereo Audio over Fiber

Extend DVI-D video and stereo audio up to 1.5 kilometers over just a single strand of optical fiber.



- Extends Full HD video and 24-bit stereo audio over a single strand of single-mode or multimode fiber with no signal loss.
- Very compact, in-line extenders. No need to make room for an external box at a screen.
- Supports resolutions of 1920 x 1200 (WUXGA) at 60 Hz.
- Offers powerful optical output and reliable sensitivity.
- EDID programmable for use with the latest screens.
- Low power consumption.
- Add optional splitters for multipoint video distribution.
- ✦✦**WARRANTY** — 1 Year

The extender is great for:

- Reaching signage in public information systems and transit stations with a lot of interference.
- Distributing HD video to monitors in factories or other areas with lots of machinery.
- Transmitting video great distances in large hospitals or across medical health systems.
- Extending video securely in government, military, or defense industry applications.

This economical extender kit enables you to transmit DVI and stereo audio signals longer distances over a single optical fiber strand—without compromising the quality of the original video or audio signal.

Delivering Full HD video resolution to a screen up to 1.5 kilometers (0.9 mi.) away over single-mode fiber, the Mini Extender Kit for DVI-D and Stereo Audio over Fiber is ideal for transmitting DVI-D video and CD-quality audio to remote digital signage or monitors.

The extender supports 24-bit true color depth, which makes it great for sharing video in healthcare, education, multimedia production, or engineering applications.

And because it uses optical media for extension, the signal is immune to interference from nearby equipment and is highly secure. Use it with LC-terminated 1310/1550-nm (dual-wavelength) fiber.

For optimum display communications, the extender reads EDID data from your latest, custom-resolution screens.

Plus, the transmitter and receiver units are super-compact. The receiver can be hidden quite easily behind a screen in a public area, and the transmitter can be installed in-line at a player or other source device.

Need to reach more than one distant screen? Add a 4- or 8-port splitter, or a 2-port daisychainable version, which enables you to not only extend to a receiver but also output video to a second splitter for additional screen connectivity.

CE Approval — Yes
RoHS — Yes

Item	Code
Mini Extender for DVI-D and Stereo Audio over Fiber Kit	AVX-DVI-FO-MINI
✦ Includes (1) transmitter, (1) receiver, (2) power supplies, and (2) 3.5-mm audio cables.	
For distributing to multiple screens, add a…	
Splitter 8-Port	AVX-DVI-FO-SP8
4-Port	AVX-DVI-FO-SP4
2-Port Daisychainable*	AVX-DVI-FO-SPCS
Then add your required additional receivers…	
Receiver	AVX-DVI-FO-MINI-RX

* *NOTE: The second port is for daisychaining to a second splitter only, not for extending to a receiver.*

Buyer's Guide | Analog Extenders

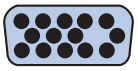
For product details, see the page listed.

Standard	Solution/Description	Max. Resolution	Media	Max. Distance	Audio	Serial	Code	Specific Component
VGA	**Wizard Multimedia Extenders LP** Affordable extenders for extending and splitting VGA using line-powered receivers.	Maximum on supported input: VGA, 1080p: HD	CATx	500 ft.	•	•	AVU4004A	4-Port Transmitter, p. 34
							AVU4001A	1-Port Transmitter/Receiver Kit, p. 34
							AVU4001A-RX	Receiver, p. 34
	HD View™ VGA Extenders Plug-and-play, modular system for video, audio, and serial extension, including splitter and receivers for standard- and long-range distances and reaching up to as many as 256 screens; also available: receivers that plug conveniently into an NEC® LCD expansion slot.	1920 x 1440: VGA, 1080p: HD	CATx	Depends on receiver	•	•	AC3000A-R2	Transmitter, 1-Port, p. 35
				Depends on receiver	•	•	AC3008A-R2	Transmitter, 8-Port, p. 35
				Depends on receiver	•	•	AC3016A-R2	Transmitter, 16-Port, p. 35
				1000 ft.	•	•	AC3002A	Line Splitter, Long-Range, p. 35
				360 ft.	•	•	AC3003A-R2	Receiver, 1-Port Standalone, Standard, p. 35
				1000 ft.	•	•	AC3004A-R2	Receiver, 1-Port Standalone, Long-Range, p. 35
				360 ft.	•	•	AC3003A-NEC	Receiver, 1-Port NEC Integrated, Standard, p. 35
				1000 ft.	•	•	AC3004A-NEC	Receiver, 1-Port NEC Integrated, Long-Range, p. 35
	Economy VGA Extenders Economical extenders available as a 4-port transmitter for reaching multiple areas, as well as for point-to-point extension.	1024 x 768: VGA	CATx	500 ft.	—	—	AC555A-4-R2	4-Port Transmitter, p. 36
				500 ft.	—	—	AC555A-REM-R2	2-Port Receiver, p. 36
				500 ft.	—	—	AC555A-R2	Extender Kit, p. 36
				500 ft.	•	—	AC556A-R2	Extender Kit with Audio, p. 36
	Wizard USB Multimedia Extender Transmitter/receiver combo for extending video, audio and USB 2.0 and 1.1 peripheral signals.	1600 x 1280: VGA	CATx	164 ft.	•	—	AVU5020A	Extender Kit, p. 36
	Wizard Multimedia Extenders VGA extenders with audio support for single- and quad-channel transmission; all transmitters work with all receivers; a receiver is available for daisychaining.	1600 x 1280: VGA	CATx	1000 ft.	•	—	AVU5010A	Extender Kit, p. 37
				1000 ft.	•	—	AVU5001A	Transmitter, Single Video/Audio, p. 37
				1000 ft.	•	—	AVU5004A	Transmitter, Quad Video/Audio, p. 37
				1000 ft.	•	—	AVU5011A	Receiver, Dual Video/Stereo Audio, p. 37
				1000 ft.	•	—	AVU5111A-R2	Receiver, Dual Video/Stereo Audio/ CATx Daisychain Port with Deskew, p. 37
	Mini CAT5 VGA Extenders CATx-based extender kits, plus multichannel VGA splitter/extenders and VGA receivers, as well as space-saving extender-in-wallplate options.	1920 x 1440: VGA, 1080p: HD	CATx	500 ft.	—	—	AC504A	Extender Kit, p. 38
				500 ft.	—	—	AC600A	Splitter/Transmitter with Local Port, 2-Channel, p. 38
				500 ft.	—	—	AC601A	Splitter/Transmitter with Local Port, 4-Channel, p. 38
				500 ft.	—	—	AC654A	8-Port Splitter, p. 38
				500 ft.	—	—	AC603A	Transmitter with Local Port, p. 38
				500 ft.	—	—	AC504A-WP	Wallplate Transmitter, p. 38
				500 ft.	—	—	AC602A	Receiver, Standalone, p. 38
				500 ft.	—	—	AC504A-WP-R	Receiver, Wallplate, p. 38

For other analog video extenders, see page 65 – 66 in the Legacy Solutions section.

Black Box Explains

Analog video connectors.



VGA — The Video Graphics Array interface carries analog RGB with separate horizontal and vertical sync signals and is presented on an HD15 connector (also called 15-pin D-subminiature). When VGA was introduced in 1987 for PC video, it was a huge improvement over the EGA DB9 connector. VGA, the basic format, supports resolutions up to 640 x 480 with 256 colors.

SVGA (Super VGA), XGA, and later formats continued the drive to provide ever-sharper images and greater color depth. Plus, over the years, VESA standards have brought structure and interoperability to a market that was becoming a mixture of often incompatible SVGA graphics cards.

Later formats supported even higher resolutions — oftentimes, rivalling those of digital 1080i and 1080p displays. These later formats include SXGA (1280 x 1024), UXGA (1600 x 1200), and WUXGA (1920 x 1200).

Composite video — Typically a yellow RCA connector, it has been the standard interface for consumer TV equipment. As its name suggests, Composite video has the luminance (black and white), chrominance (color), and sync pulses combined in one signal.

S-Video — Also called Y/C video, it was introduced to overcome shortfalls associated with Composite video. It's a less encoded video format, transmitting color (C) and luminance (Y) information separately to produce a sharper image.

Component video — This YCbCr connector separates the signal more than S-Video for less interference and improved video. In addition to Y (luminance) signals, it transmits color information as two signals: B-Y (Blue minus luminance, also called Cb or Pb) and R-Y (Red minus luminance, also called Cr or Pr).

Buyer's Guide | Analog Extenders

For product details, see the **page** listed.

Standard	Solution/Description	Max. Resolution	Media	Max. Distance	Audio	Serial	Code	Specific Component
VGA (Cont.)	**VGA/Audio Fiber Extenders** For transmitting VGA and stereo audio signals over a single strand of fiber; models available with loopthrough video and audio ports, and for transmitting point to multipoint.	1920 x 1080: VGA, 1080i: HD 1080i (RGBHV only)	SM/MM fiber	SM: 30 km, MM: 750 m	•	—	AC1021A-XMIT	Transmitter, VGA/Audio/(1) ST®, p. 39
				SM: 30 km, MM: 750 m	•	—	AC1022A	Transmitter, VGA/Audio Loopthrough/ (4) ST, p. 39
				SM: 30 km, MM: 750 m	•	—	AC1021A-REC	Receiver, VGA/Audio/(1) ST, p. 39
				SM: 30 km, MM: 750 m	•	—	AC1023A	Receiver, 1 x 4 VGA/Audio/(1) ST, p. 39
				SM: 30 km, MM: 750 m	•	—	AC1020A	Extender Kit, p. 39
S-Video/ Composite/ Component	**Universal Video/Stereo Audio Fiber Extender** Extender for transmitting various analog video formats and stereo audio over a single fiber.	480p: HD (but also supports 1080i/720p HDTV on BNC)	MM fiber	SM: 60 km	•	—	AC300A-TX-R2	Transmitter, p. 39
				SM: 60 km	•	—	AC300A-RX-R2	Receiver, p. 39
Multiple on BNC coax	**FiberPath** Fiber extender for transmitting all standard formats, including NTSC, PAL, and SECAM.	—	MM fiber	2.4 km	—	—	AC444A	FiberPath Kit, p. 39
VGA/ Component	**MediaCento™ RF** RF coax-based extension of HD video and audio via an HDTV QAM channel.	1920 x 1080: VGA, 1080i: HD	Coax	—	•	—	AVX-VGA-RF	1080i RF Extender, p. 39
		1680 x 1050: VGA, 720p: HD	Coax	—	•	—	AVX-VGA-RF44	720p RF Extender, p. 39
Component	**Mini CAT5 Component Extenders** CATx-based extender kits for Component video.	1920 x 1440: VGA, 1080p: HD	CATx	500 ft.	—	—	AC504A-CP	Extender Kit, p. 38
	Component VIdeo Extender CATx-based Component video extender (optional 8-port splitter available).	1080p: HD	CATx	500 ft.	—	—	AC651A	Extender Kit, p. 41
S-Video/ Composite	**Video CCTV–A/V Hub** 8-channel CATx-based hub for communicating with remote baluns (required).	S-Video: 576i; Composite: 480i	CATx	2500 ft.	•	—	IC445A	Video CCTV–A/V Hub, p. 41

PLUS see our selection of audio and video baluns on pages 41–43.

Baluns are compact devices that enable you to connect a balanced line, such as twisted pair, to an unbalanced line, such as coax cable, for economical AV, CCTV, and CATV extensions. On **pages 41–43**, we offer versions for extending high-resolution video and digital or analog audio over CATx cable, baluns for transmitting S-Video and audio signals over CAT5, baluns for extending Component or single-signal Composite video equipment, and others.

Black Box Explains

Alternatives to analog video cable extension.

Extending video long distances isn't often possible or practical using standard VGA or coax cabling. With Composite, Component, and other analog video cabling, frequency losses result in deteriorated video quality. Generally, with these cables, the shorter distance the better.

Extenders that extend analog video over UTP copper or fiber cable solve this problem, enabling you to use backbone or horizontal wiring for long-distance extensions. Depending on the extender model, video input can be VGA, Component, S-Video, Composite, or BNC coax. They're a great alternative to using analog video or coax cables, which often can't be easily pulled through tight conduits and can be more difficult to terminate. What's really nice is, in most buildings, copper or fiber cabling is already installed to service data communications.

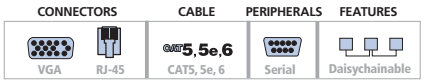
Fiber-based extenders provide higher bandwidth and interference-free extensions at distances much farther than copper-type CATx extenders. But there's the matter of cost. CATx extenders that use cabling and connectors cost considerably less than fiber cabling components.

Another thing to consider: Coax- or VGA-cabled extension installations usually require a separate RS-232 or other line for transmitting the control signal for the display—yet another cable to fit into the conduit. CATx cable, however, delivers both the video and control signals through a single transmission medium.

But what if you have long runs of coax installed? An extender like the MediaCento RF that uses low-cost RF cabling to broadcast video to remote HDTV screens may be the answer. Supporting both VGA and Component video source input, the MediaCento RF encodes and modulates signals for single-channel RF transmission over existing coax wiring. The QAM tuner at the screen enables the reception of the high-definition MediaCento RF channel, so no set-top box or other piece of hardware is required.

Wizard Multimedia Extenders LP

Affordable CATx-based ways to send HD VGA video to distant screens using line-powered receivers.



- Send maximum resolutions at a maximum distance of 500 feet (150 m).
- Transmit power to receivers—great for digital signage in areas short on outlets.
- Support cloning of EDID display info.
- Video adjustment on receiver for controlling sharpness on the display.
- ✦✦**WARRANTY** — 2 Years

AVU4004A

AVU4001A (includes transmitter and receiver)

Simplify Full HD 1080p extension with these CATx-based VGA solutions. Wizard Multimedia LP extenders enable you to reduce the infrastructure required for video-only digital signage extension.

The 4-port transmitter (AVU4004A) extends to four screens at distances up to 500 feet (150 m) using solid-conductor cable, including non-networked CATx runs already installed in your building (shielded, foil twisted-pair [FTP] cable is recommended). Just add a Wizard Multimedia Extender LP Receiver (AVU4001A-RX) for each screen.

Need to reach just a single display? Then order our 1-port transmitter/receiver kit (AVU4001A). It includes an ultra-compact transmitter and receiver.

Even better, all receivers are line powered, so power isn't required at the remote end.With no bulky power transformer to plug in, you can reduce clutter locally at the source and remotely at the display. The Wizard Multimedia Extender LP takes its power directly from a USB interface and extends that power over the link used for video, transmitting low-voltage power via a spare wiring pair to the receiver.

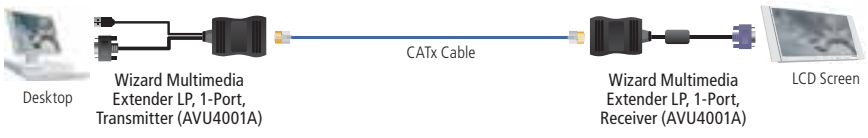
Getting power from the USB interface also makes the Wizard Multimedia Extenders LP great for digital signage or video distribution to screens in areas without abundant power outlets. It's also safer (in K–12 school settings, for example).

The 4-port model also has a serial port for switching remote video on and off plus a feed-through VGA port for local monitoring.

Or use the port to cascade to another 4-port transmitter—great in applications where you have more than four displays that you want to reach with your host system. You can cascade another transmitter to support up to eight screens.

NOTE: Maximum distance depends on the quality of the cable and the type of VGA source and display. Low-skew cables are recommended for distances over 164 feet (50 m). For more specifications, see ***blackbox.eu****.*

CE Approval — Yes
RoHS — Yes



Item	Code
Wizard Multimedia Extenders LP	
4-Port Transmitter	AVU4004A
1-Port Transmitter/Receiver Kit	AVU4001A
For the AVU4004A, order up to four receivers:	
Wizard Multimedia Extender LP Receiver	AVU4001A-RX

HD View Extenders

Flexible, CATx-based solutions for extending VGA video, stereo audio, and control signals to digital signage.

HD View™
BLACK BOX IP BROADCASTING SYSTEM

- Perfect for reaching LCD and plasma screens over dedicated CATx runs.
- Support HD resolutions of 1080p (1920 x 1440 at 60 Hz) and stereo audio.
- Plug-and-play and modular. Install quickly without any unnecessary hardware.
- Use with standard or long-range receivers for distances up to 1000 feet (304.8 m).
- System supports AV signal distribution to as many as 256 screens.
- Offer improved RFI immunity and surge arrestors to protect against surges.
- Variable, VESA-standard mounting options for discreet installation.
- Also available: receivers that plug conveniently into an NEC® LCD expansion slot.
- ✦✦ **WARRANTY** — 3 Years

AC3003A-R2

Great for distributing 1080p video!

AC3002A

Designed for high-end multimedia applications, the HD View™ is a truly modular distribution system for extending VGA video and audio signals over CAT5, CAT5e, CAT6, or proposed CAT7 cable.

The HD View system includes transmitters, receivers, and line splitters for delivering single or multiple channels of high-def video and stereo audio to remote plasma/LCD screens, which makes them great for distributing media in digital signage setups.

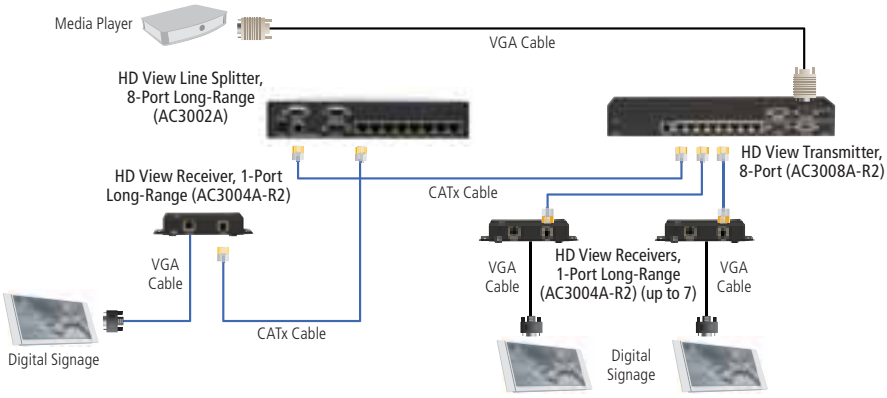
Mix and match units to send video at varying distances to one or more areas of your application. Standard receivers support 360-foot (109.7-m) distances; long-range receivers support 1000-foot (304.8 m) distribution.

Out-of-band management frees the network of video transfer, and because it supports RS-232 transmit/receive signaling, you can turn a screen on or off to save energy. No more walking from screen to screen to power down your displays.

The HD View system also includes a utility that provides you with a full view of your AV topology. Use it to name your devices and ports, assign screens to groups, and adjust RGB skew.

Plus, the HD View system supports DDC, which gives you optimal player-to-screen configuration and can be read from a remote port. Using DDC, you can set your digital signage player resolution and refresh rate to the native resolution supported by the connected screen. HD View gets this information from a display, stores it on the transmitter, and emulates it to the player.

If you have NEC screens with expansion slots and want to reduce cabling, order our Integrated NEC HD View Receivers. These modular receivers offer all the features of our standalone models plus a VGA port to connect to a second display.



AC3003A-NEC

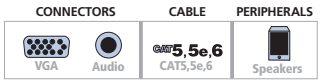
NOTE: The maximum distance for remote end video is 1000 feet (308.4 m), although not a maximum resolution. For full specifications, see ***blackbox.eu****.*

CE Approval — Yes
RoHS — Yes

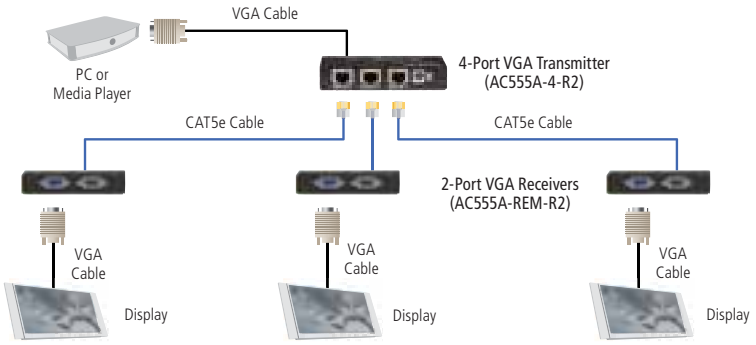
Item	Code
HD View	
Transmitters	
1-Port	AC3000A-R2
8-Port	AC3008A-R2
16-Port	AC3016A-R2
✦ Include (1) transmitter, (1) video cable, (1) serial extender cable, (1) serial download cable, and (1) audio cable.	
Line Splitter	
8-Port Long-Range	AC3002A
Receivers	
1-Port Standalone	
Standard	AC3003A-R2
Long-Range	AC3004A-R2
1-Port Integrated NEC	
Standard	AC3003A-NEC
Long-Range	AC3004A-NEC

Economy VGA Extenders

Place displays and speakers up to 500 feet away over CATx cable.



AC555A-R2: left: local unit; right: remote unit.



- Extend VGA or VGA and audio up to 500 feet (152.4 m) over CAT5/5e/6 cable.
- Support resolutions up to 1024 x 768.
- 2-kV avalanche diode for greater electrostatic discharge (ESD) protection and more reliability.
- Ideal for digital signage and classrooms.
- ✦✦ **WARRANTY** — 1 Year

These Economy class VGA extenders enable you to use ordinary CATx cable to reach remote VGA screens up to 500 feet (152.4 m) away from your PC or other VGA source.

An equalization (gain) control on the remote units enables you to fine-tune video.

Order the 4-Port VGA Transmitter to extend to four separate locations over CATx. It also has a local VGA passthrough port. Then, for each remote location, add a VGA Receiver, 2-Port, which connects to two monitors at each location.

For extending to only one area, order the VGA Extender Kit or the VGA Extender Kit with Audio.

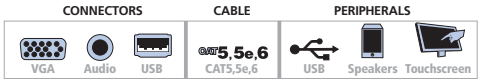
CE Approval — Yes
RoHS — Yes

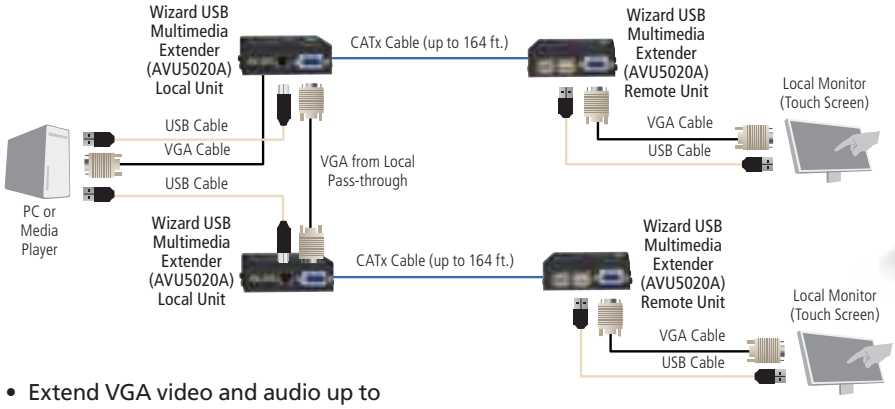
Item	Code
Order a transmitter with four UTP ports…	
4-Port VGA Transmitter	AC555A-4-R2
…then add a receiver for each remote site:	
VGA Receiver, 2-Port	AC555A-REM-R2
Need to go just point to point? Order a kit…	
VGA Extender Kit	AC555A-R2
VGA Extender Kit with Audio	AC556A-R2

✦ Each kit includes (1) local unit, (1) remote unit, (1) 6-ft. VGA M/F cable, and (2) power supplies. The AC556A-R2 also includes (1) 6-ft. audio cable.

Wizard USB Multimedia Extender

Extend audio and video over inexpensive CATx cable to remote USB touchscreens and other peripherals.




Wizard USB Multimedia Extender (AVU5020A) Local Unit
CATx Cable (up to 164 ft.)
Wizard USB Multimedia Extender (AVU5020A) Remote Unit
Local Monitor (Touch Screen)
USB Cable
VGA Cable
USB Cable
VGA from Local Pass-through
VGA Cable
USB Cable
PC or Media Player
Wizard USB Multimedia Extender (AVU5020A) Local Unit
CATx Cable (up to 164 ft.)
Wizard USB Multimedia Extender (AVU5020A) Remote Unit
Local Monitor (Touch Screen)
VGA Cable
USB Cable

AVU5020A

- Extend VGA video and audio up to 164 feet (50 meters) over CATx.
- Reach monitors, touchscreens, speakers, and other USB 2.0 and 1.1 devices.
- Features an integrated 4-port USB hub.
- Use two extenders to extend video from computers with dual monitors to touchscreens and interactive kiosks.
- Supports 1920 x 1200 resolutions and fully supports DDC.
- ✦✦ **WARRANTY** — 2 Years

The Wizard USB Multimedia Extender enables you to not only extend video and stereo audio over CATx, but also connect to all sorts of USB 2.0 and 1.1 devices.

Four full-speed USB 2.0 devices can be used simultaneously, disconnected and reconnected at any time without any errors.Plus, video and audio outputs on the local unit enable local control of remote devices.

What's more, the extender also transmits 44.1-kHz CD-quality stereo audio.

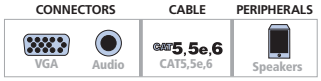
CE Approval — Yes
RoHS — Yes

Item	Code
Wizard USB Multimedia Extender	AVU5020A

✦ Includes (1) local unit, (1) remote unit, (1) in-line power supply, (8) rubber feet, (1) VGA cable, (1) 3.5-mm to 3.5-mm audio cable, and (1) USB Type A to Type B cable.

Wizard Multimedia Extenders

Transmit VGA video and stereo audio to remote screens and speakers over ordinary CATx cable.



- Ideal for digital signage and narrowcasting applications.
- Extend VGA video and stereo signals up to 984.2 feet (300 m).
- All transmitters work with all receivers. To expand your system for additional screens, simply cascade multiple units.
- Use as standalone units or rackmount up to 16 units in the optional 3U chassis.
- Transmit high-fidelity 16-bit, 44.1-kHz stereo audio.
- ✦✦ **WARRANTY** — 2 Years

AVU5004A

Take your PC video to distant displays using easy-to-handle CATx cables with the Wizard Multimedia Extenders.

Offering plug-and-play operation with independent sharpness and brightness controls, the extender units support 1280 x 1024 at distances of 984.2 feet (300 m) and 1600 x 1280 at 656.1 feet (200 m). All transmitters and receivers in the family feature advanced spike suppression for operation in electronically noisy areas.

The kit's transmitter (available individually as the AVU5001A) has local ports for local screen and speaker connections or for cascading to other transmitter units. The kit's receiver (available on its own as the AVU5011A) features dual VGA and audio outputs for duplicating input from the transmitter to two remote screens with speakers.

You can also a quad transmitter model (AVU5004A) to directly feed four receivers. In addition, we offer a receiver with built-in skew compensation and a CATx daisychain port (AVU5111A-R2). It's recommended for CAT5e or higher cable extensions that are longer than 328 feet (100 m). We also recommend it for CAT5e or higher applications in which you need to extend higher resolutions.

CE Approval — Yes
RoHS — Yes

*NOTE: For complete specifications, see **blackbox.eu**.*

Item	Code
Order complete extender with transmitter and receiver included…	
Wizard Multimedia Extender Kit	AVU5010A
✦ Includes (1) single-video/stereo audio transmitter (AVU5001A), (1) receiver with dual video/stereo audio ports (AVU5011A), (2) power supplies with (2) power cords, and (2) sets of rubber feet.	
You can also order individual transmitters and receivers, a quad transmitter, and a receiver with built-in skew compensation…	
Wizard Multimedia Transmitters	
Single Video/Stereo Audio	AVU5001A
Quad Video/Stereo Audio	AVU5004A
Wizard Multimedia Receivers	
with Dual Video/Stereo Audio Ports	AVU5011A
with Dual Video/Stereo Audio Ports, CATx Daisychain Port and Integral Deskew	AVU5111A-R2
✦ Individual transmitters and receivers include a power supply with power cord, and (4) rubber feet.	
To rackmount up to 16 individual units, order…	
Wizard Multimedia Extender Rackmount Chassis	AVU5000A
…then order these for every unit you plan to rackmount…	
Wizard Multimedia Extender Universal Plates	AVU5002

Case Study: Kinopalace Helsinki

The need:

Kinopalatsi (Kinopalace), Finnish for "Cinema Palace," is a 10-screen, 1,694-seat theater multiplex that was doing a bustling business, but it wanted to update its refreshment area. This area, to be named Delicasy World, would have something for everyone, including candy, chips, ice cream, juice, coffee, and grilled food.

But with the larger selection, the theater also needed a way to help guide its customers through the large menu. Digital signage fit the bill. After all, "What could be better in a theater than moving images?" said Mr. Henri Kurki, theater manager.

Our solution:

Black Box recommended a multimedia system consisting of Black Box Wizard Multimedia Extenders and six 46" wide-screen displays, which would be mounted across the top of the refreshment area.

One of the reasons the cinema chose the system was because of how easy it is to use and control. "That's the best part," said Mr. Kurki. The theater's sales manager, Mr. Petri Laine, composes the content on his office PC and sends it over the network to the screens.

Mr. Kurki said, "The system has worked perfectly and the image quality is very good." He added, "The displays bring more life to Delicasy World, attracting people and making it much more interesting."

All of this has helped the theater's bottom line. "Thanks to the new system, we're saving a good deal in printing expenses," said Mr. Laine. "Before we went digital, we had to worry all the time about the printing, delivery, and mounting of posters. Now, I can do everything with just a few keystrokes."

What's more, sales and profits in the refreshment area have increased, and ROI on the system was quite short, according to Mr. Laine.

Mini CAT5 Extender Kits • Mini CAT5 Splitter/Extenders

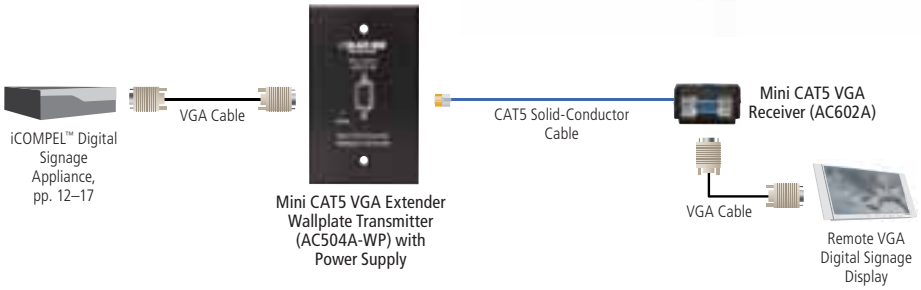
Extend digital signage video up to 500 feet over ordinary CAT5 cable.

CONNECTORS: VGA, Component | CABLE: CAT5

- Use CAT5 cable to send 1600 x 1200 video up to 300 feet at 85 Hz or 1280 x 1024 video up to 500 feet at 60 Hz.
- Eliminate the need for bulky VGA cables.
- Buffer and boost signals for clear video images at the remote end.
- Differential signaling eliminates ground loops and noise.
- For extensions up to 300 feet (91.4 m), a single power supply is all you need.
- Support a maximum resolution of 1920 x 1440 noninterlaced at 60 Hz and HDTV at 60 Hz to 1080p.
- ✦✦ **WARRANTY** — 2 Years

AC504A-WP-R

AC504A


iCOMPEL™ Digital Signage Appliance, pp. 12–17
VGA Cable
Mini CAT5 VGA Extender Wallplate Transmitter (AC504A-WP) with Power Supply
CAT5 Solid-Conductor Cable
Mini CAT5 VGA Receiver (AC602A)
VGA Cable
Remote VGA Digital Signage Display

Say good-bye to using difficult-to-terminate VGA cable and pulling Component cabling. The Mini CAT5 Extender Kits enable you to use ordinary CAT5/CAT5e/CAT6 UTP cable to connect a video monitor up to 500 feet (152.4 m) from your PC or video source.

To extend VGA video signals only to two or four remote displays, order a 2-Channel or 4-Channel Mini CAT5 VGA Splitter/Extender Transmitter. Just pair each transmitter with a (separately available) receiver at each remote screen. What's more, both splitter/extender transmitters have a second VGA port, which enables you to connect a monitor locally.

For an eight-channel splitter/extender application, order our 8-Port Component/VGA Video Splitter. It enables you to distribute VGA or Component video from a PC or other source to eight displays as far as 500 feet away over CAT5 UTP cable. Just order a receiver for each remote display.

You can also order a single-channel Mini CAT5 VGA Extender Transmitter with Local Port. It sends VGA signals 500 feet over UTP and has a local loopthrough HD15 port, which you can use to attach a local VGA monitor.

AC654A

For wallmount applications, choose the single-channel Mini CAT5 VGA Extender Wallplate Transmitter. Because it's inside a single-gang wallplate, you can mount it in any standard junction box—great for simplifying your installation.

At the remote location(s), add one or more Mini CAT5 VGA Receivers. They're ideal for placing displays where you need them to display information such as schedules or ads. The wallplate version is particularly useful in rooms tight on space.

If you want to connect back to a platform for switching between video inputs and outputs, pair each receiver with a VGA and Audio Matrix Switch on **page 54**.

NOTE: For CAT5 video extensions over 300 feet (91.4 m), you need to connect a power supply at both ends. To order a separate power supply for a remote unit, call our FREE Tech Support.

CE Approval — Yes
RoHS — Yes

Item	Code
For an out-of-box kit that connects a single video source to a single receiver, order…	
Mini CAT5 Extender Kit	
VGA	AC504A
Component	AC504A-CP
✦ Each kit includes (1) transmitter, (1) receiver, and (1) power supply. The AC504A also includes (1) VGA male/male cable. The AC504A-CP also includes (2) cables with (1) HD15 male to (3) RCA male.	
To connect a single VGA video source to multiple receivers, order a transmitter…	
Mini CAT5 VGA Splitter/Extender Transmitter with Local Port	
2-Channel	AC600A
4-Channel	AC601A
✦ Include (1) transmitter, (1) VGA male/male cable, and (1) power supply.	
8-Port Component/VGA Video Splitter	AC654A
Order a standalone transmitter, which also has a port for a local VGA display…	
Mini CAT5 VGA Extender Transmitter with Local Port	AC603A
Or for extension capabilities in a junction box, order the following VGA transmitter…	
Mini CAT5 VGA Extender Wallplate Transmitter	AC504A-WP
…then pair your transmitters with a receiver at the remote VGA video display.	
Mini CAT5 VGA Receiver	
Standalone	AC602A
Wallplate	AC504A-WP-R

VGA/Stereo-Audio Fiber Extenders

Do more with your fiber! Use just a single fiber strand to transmit video and audio signals to digital signage.

CONNECTORS: VGA | CABLE: Multimode-ST, Single-Mode-ST | PERIPHERALS: Speaker

- Ideal for digital signage or AV extensions in interference-heavy areas.
- Send high-resolution VGA and stereo audio up to 750 meters (2460.6 ft.) over multimode fiber or up to 30 kilometers (18.6 mi.) over single-mode cable.
- Transmit VGA, SVGA, XGA, and WXGA.
- Support HDTV resolutions of 480p, 720p, and 1080i (RGBHV format only).

- Work in point-to-point, point-to-multipoint, and drop-and-repeat configurations.
- Digital processing ensures crystal-clear transmission with no color pixel skewing.
- ✦✦ **WARRANTY** — 3 Years

CE Approval — Yes
RoHS — Yes

Item	Code
First order your transmitter…	
VGA/Stereo-Audio Fiber Extender Transmitter	
with (1) ST® Optical Output, (1) VGA Input, (1) 3.5-mm Audio Jack	AC1021A-XMIT
with (4) ST Optical Outputs, (1) VGA Input with Loop-Through, (1) 3.5-mm Audio Jack with Loop-Through	AC1022A
…then order your receiver…	
VGA/Stereo-Audio Fiber Extender Receiver	
with (1) ST Optical Input, (1) VGA Output, (1) 3.5-mm Audio Jack	AC1021A-REC
with (1) ST Optical Input, (1) 1 x 4 VGA Output, (1) 3.5-mm Audio Jack	AC1023A
Or order an extender kit:	
VGA/Stereo-Audio Fiber Extender Receiver	
VGA/Stereo-Audio Fiber Extender Kit (AC1021A-XMIT and AC1021A-REC)	AC1020A

FiberPath

No interference, high bandwidth, low cost. Fiber secures your video displays!

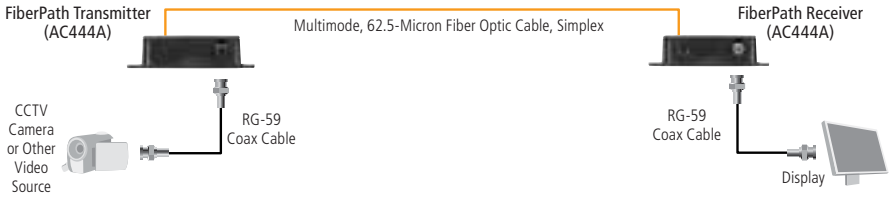
CONNECTORS: Composite | CABLE: Multimode-ST

- Ideal for long-distance information displays, digital signage, and security systems.
- Sends video up to 2.4 kilometers (1.5 mi.).
- Eliminates ground-loop problems.
- Works with all standard video formats, including NTSC, PAL, and SECAM.
- Each unit has a 62.5-µm multimode ST port and BNC coax connectors.

Receiver

Transmitter

- ✦✦ **WARRANTY** — 3 Years



NOTE: The FiberPath transmitter and receiver must be used in pairs.

CE Approval — Yes
RoHS — Yes

Item	Code
FiberPath	AC444A
✦ Includes (1) transmitter, (1) receiver, and (2) power supplies.	
If you need a replacement unit, order…	
Transmitter	AC445A-TX
Receiver	AC446A-RX

NOTE: These are intended as replacement units and do not include power supplies.

Universal Video/Stereo Audio Fiber Extender

Ensure the quality of video and audio in noisy environments—use fiber.

CONNECTORS: Component, Composite, S-Video | CABLE: Multimode-ST®, Single-Mode-ST

- Send one video and two audio signals over a single 1310-nm single-mode fiber—as far as 60 kilometers.
- All-digital transmission provides excellent image quality and sound.
- Works with five types of video formats: Composite video, Component video, S-Video, 1080i/720p HDTV, and Progressive Scan DVD.
- Use with multimode or single-mode fiber, and all analog TV video equipment.
- Ideal for professional audio/video applications, POS displays, kiosks, and more.
- Two stereo channels for crystal-clear fidelity.
- ✦✦ **WARRANTY** — 3 Years

Top: receiver (AC300A-RX-R2); bottom: transmitter (AC300A-TX-R2). The extender has BNC video connectors, screw terminal block connnectors for audio, and an ST fiber optic interface.

CE Approval — Yes
RoHS — Yes

What's included

Both the transmitter and receiver include:

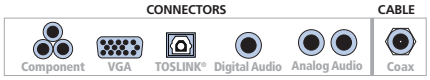
- 12-ft. Composite video cable, BNC/BNC
- 6-ft. S-Video 4-pin mini DIN/(2) BNC cable
- 10-ft. Component video cable, (3) BNC/(3) RCA plugs
- 10-ft. stereo audio cable, (4) tin-lead-shielded twisted pairs to (2) RCA plugs
- BNC to RCA adapter
- Universal power supply

Item	Code
Universal Video/Stereo Audio Fiber Extender	
Transmitter	AC300A-TX-R2
Receiver	AC300A-RX-R2

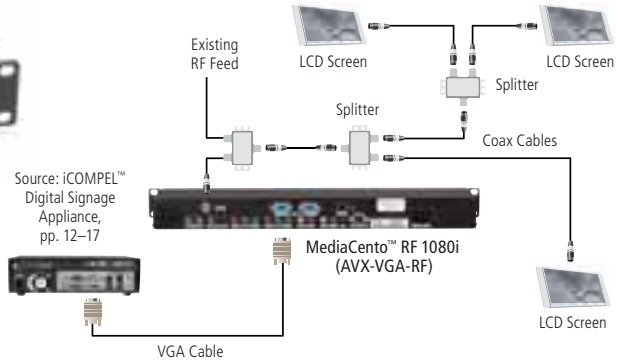
MediaCento RF Distribution System

Use low-cost coax to send HD video and audio to multiple HDTV screens across a campus.

Top: AVX-VGA-RF44; bottom: AVX-VGA-RF



MediaCento™ RF
BLACK BOX MEDIA DISTRIBUTION



- Encodes and modulates video input, creating an HDTV channel for low-cost coax. Add an HD channel to an existing coax feed.
- Makes it simple to send video to every on-premise HDTV screen.
- Works with any VGA or Component video source.
- To view video remotely, just tune it in using the HDTV's QAM tuner.
- No set-top boxes required. No limit to the number of HDTVs that can receive broadcasts from one unit.
- The channel can even be combined with 133 other HDTV channels—great for hospitals, hotels, or other buildings with in-house TV distribution systems.
- Also transmits audio and supports input from USB audio devices.
- ✦✦**WARRANTY** — AVX-VGA-RF: 3 Years; AVX-VGA-RF44: 2 Years

Why install new cabling for signage or AV signal distribution when you can use existing coax runs instead? MediaCento™ RF gives you a simple, affordable way to do just that.

With it, you can convert video from a Component or VGA source into an HDTV cable channel, extending that channel over standard coax RF wiring in your building.

As a combination MPEG 2 encoder and frequency-agile QAM modulator, it encodes video and audio then modulates signals for single-channel RF transmission, creating a well-formed 6-MHz QAM 256 channel for the 50–900-MHz modulation range (Channels 2–135) of a digital cable system. You use the QAM tuner in a display to decode the signals.

Ideal for digital signage.

It's an economical alternative to installing a digital signage player at every display when the messaging is the same on every display. You can use a single player to feed content over existing coax to an unlimited number of on-premises HDTVs. MediaCento RF essentially enables you to distribute HD content for $0 per display! And that's not counting the money saved by not having to install new wiring and wallplates.

Choose from two models.

The 1080i version supports VGA input up to 1920 x 1080 and Component video input up to 1080i, and has dual analog audio jacks. Plus, it enables configuration via a PC's USB connection and an RS-232 console (which also can be used for channel switching). In addition, this model supports broadcasting two HD channels in different languages.

For light commercial use, order the low-priced 720p version. It supports VGA input up to 1680 x 1050 and Component input up to 720p. It can be configured from the front panel or a USB PC connection. This model accepts digital audio only (via a digital RCA audio, TOSLINK®, or Windows® PC USB link).

The MediaCento RF graphical user interface.

TECH SPECS

Resolutions (Maximum) — Output:
AVX-VGA-RF: 1080i; AVX-VGA-RF44: 720p;
Input: Component video (at 60 fps):
AVX-VGA-RF: 1080i; AVX-VGA-RF44: 720p;
VGA video*: AVX-VGA-RF: 1920 x 1080 at 60 Hz;
AVX-VGA-RF44: 1680 x 1050 at 60 Hz
Video Encoding — MPEG2 HD Profile 2: ISO 13818-2 MP at HL (1920 x 1080 or 1280 x 720)
Connectors — Video input: Component (Y-Pb-Pr): (3) RCA (75-ohm, 0 to 0.7 v);
Computer: (1) DB15 F (VGA);
Audio input: S/PDIF digital: (1) TOSLINK® F, (1) RCA (75-ohm) jack;
Analog (AVX-VGA-RF only): (2) RCA (L/R) jacks;
USB audio/control: (1) USB Type B F (USB audio device input or USB control interface);
Audio looped output (AVX-VGA-RF only): S/PDIF digital: (1) TOSLINK M, (1) RCA (75-ohm) jack;
Analog: (2) RCA (L/R) jacks;
Video output: Distribution: (1) F-type coax RF;
Video looped output (AVX-VGA-RF only): Component (Y-Pb-Pr): (3) RCA (75-ohm, 0–0.7 v);
Computer: (1) DB15 F (VGA);
Serial system control: Via USB port above;
AVX-VGA-RF also has: (1) DB9 F (RS-232);
IR command control: (1) ⅛" mini jack
Power — 100–240 VAC, 50–60 Hz, 25 watts
Size — AVX-VGA-RF: 1.7"H x 17"W x 5.75"D (4.3 x 17.8 x 14.6 cm);
AVX-VGA-RF44: 1.7"H x 14.8"W x 4.9"D (4.3 x 38 x 12.5 cm)
Weight — AVX-VGA-RF: 5.5 lb. (2.5 kg);
AVX-VGA-RF44: 5.1 lb. (2.3 kg)

** NOTE: VGA resolutions are broadcast centered in the best vertical fit into 1920 x 1080 or 1280 x 720 (AVX-VGA-RF) or 1280 x 720 (AVX-VGA-RF44) at 60 frames per second.*

Item	Code
MediaCento RF	
1080i	AVX-VGA-RF
720p	AVX-VGA-RF44
To add closed captioning in your broadcast...	
Closed Caption Device	AVX-RFCC
To clear a channel on your system, order...	
Channel 125 Filter	AVX-RFNF125
Channel 135 Filter	AVX-RFNF135

Component Video Extender Kit

Extend Component video up to 1000 feet over UTP cable.

CONNECTORS: Component, RJ-45 | CABLE: CAT5,5e,6

- Use inexpensive CAT5e/CAT6 cable to extend standard or HDTV Component video signals.
- Supports 1080i at up to 500 feet (152.4 m) and 1080p at up to 300 feet (91.4 m).
- Protects against interference, prevents distortion and video hum, and matches UTP cable impedance to prevent ghosting.
- Wide-bandwidth (450-MHz) differential amplifiers ensure sharp video at remote screen.
- For multiple screens, use the AC654A splitter with individual receivers (call to order).

Left: transmitter; right: receiver

- ✦✦ **WARRANTY** — Both: 2 Years

CE Approval — Yes
RoHS — Yes

Item	Code
Component Video Extender Kit	
✦ Includes (1) transmitter, (1) receiver, (1) power supply, and (2) Component video cables.	AC651A
For larger applications, order…	
8-Port Component/VGA Video Splitter	AC654A

CCTV Passive Hub • CCTV Power-Through Baluns

Extend CCTV video and remote power over inexpensive CATx cable instead of coax.

CONNECTORS: BNC, Screw Terminal, RJ-45 | CABLE: CAT5,5e,6

IC562A

IC561A

- All support NTSC, PAL, and SECAM formats.
- The 1U rackmountable CCTV Passive Hub sends video, PTZ control, and power over ordinary CAT5/CAT5e/CAT6 cabling.
- The hub extends video at up to 2500 feet (762 m), PTZ control up to 4000 feet (1.2 km), and power up to 350 feet (106.6 m), and works with the CCTV Power-Through Baluns and the CCTV Baluns (**right**).
- The hub has RJ-45 ports on the front and coax connectors on the rear. Set ports individually for power-through or pass-through.
- CCTV Power-Through Baluns transmit color video up to 2200 feet (670.5 m) over CAT5/CAT5e/CAT6 cable.
- The baluns also support 24-VAC power at up to 518 feet (157.8 m) when using 5 VA.
- ✦✦ **WARRANTY** — All: Lifetime

CE Approval — Yes
RoHS — Yes, except for IC561A

Item	Code
CCTV Passive Hub with (16) BNC Coax Connectors	IC562A
CCTV Power-Through Baluns	
with RJ-45 Connectors	IC560A
with Screw Terminals	IC561A

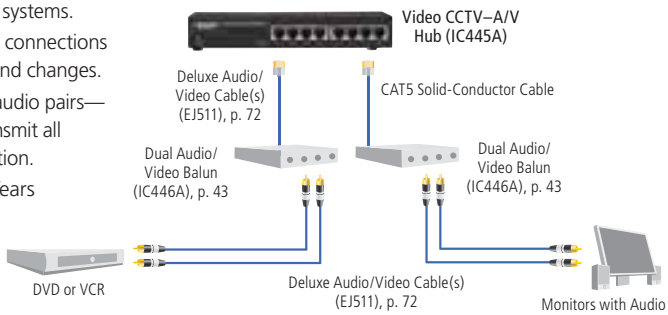
Video CCTV–A/V Hub

Run multiple combinations of audio/video signals over ordinary, affordable CATx cabling.

CONNECTORS: RJ-45 | CABLE: CAT5,5e,6

- Use CAT5/CAT5e/CAT6 to run two Composite video signals or one S-Video and two audio signals up to 2500 feet (762 m) to eight sites. Simply pair each run with a compatible balun at the remote ends.
- Broadcast different programs on multiple monitors without rewiring your building.
- Integrates seamlessly with many of our baluns (**at right**). For details on the compatible baluns, see **pages 42–43**.
- Supports NTSC and PAL systems.
- Standard modular RJ-45 connections for quick moves, adds, and changes.
- Independent video and audio pairs—no need to use all or transmit all signals in the same direction.
- ✦✦ **WARRANTY** — 2 Years

Top: front view; bottom: rear view


Video CCTV–A/V Hub (IC445A)
Deluxe Audio/ Video Cable(s) (EJ511), p. 72
CAT5 Solid-Conductor Cable
Dual Audio/ Video Balun (IC446A), p. 43
Dual Audio/ Video Balun (IC446A), p. 43
DVD or VCR
Deluxe Audio/Video Cable(s) (EJ511), p. 72
Monitors with Audio

CE Approval — Yes
RoHS — IC445A, IC444A-RCA

Item	Code
First order the hub…	
Video CCTV–A/V Hub	IC445A
Then pair each RJ-45 port with a remote balun (a balun is required for each link)…	
CCTV Baluns	
BNC/RJ-45	IC440A
BNC/Screw Terminal	IC444A
RCA/RJ-45	IC444A-RCA
Component/Composite Video Balun	IC462A
Dual Audio/Video Balun	IC446A
Video/Stereo Audio Balun	IC441A-R2
S-Video Balun	IC447A
S-Video with Dual Audio Balun	IC449A

Save money by running audio/video signals over

Mount square baluns for

Video PTZ Balun

Transmit CCTV and PTZ signals as far as 2200 feet.

CONNECTORS: BNC, RJ-45 | CABLE: CAT5,5e,6

- Integrate CCTV security devices into your cabling system.
- Includes a 10" (2.5-cm) BNC-to-BNC coax cable.
- ✦✦ **WARRANTY** — 1 Year

NOTE: Must be used in pairs.

Item	Code
Video PTZ Balun	IC450A-R2

CE Approval — Yes

CCTV Baluns

Run Composite video over easy-to-handle CATx.

CONNECTORS: BNC, Screw Terminal, RJ-45 | CABLE: CAT5,5e,6

NOTE: Must be used in pairs.

CE Approval — Yes

- Converts a single Composite baseband video signal from 75-ohm coax cable to CATx.
- ✦✦ **WARRANTY** — Lifetime

Item	Code
CCTV Baluns	
BNC/RJ-45	IC440A
BNC/Screw Terminal	IC444A
RCA/RJ-45	IC444A-RCA

CATV Balun

Integrate CATV equipment into your CAT5 cabling system.

CONNECTORS: Coax, RJ-45 | CABLE: CAT5

CE Approval — Yes

- Works with CATV, VHF, and FM systems.
- F-type connector.
- ✦✦ **WARRANTY** — Lifetime

NOTE: Must be used in pairs.

Item	Code
CATV Balun	IC448A-R2

Quad Video Balun

Send four Composite video signals up to 2200 feet.

CONNECTORS: Composite, RJ-45 | CABLE: CAT5,5e,6

CE Approval — Yes

- Eliminates four Composite runs.
- RCA inputs.
- ✦✦ **WARRANTY** — Lifetime

NOTE: Must be used in pairs.

Item	Code
Quad Video Balun	IC564A

Component Video/ Digital Audio Balun

Connect HDTV devices over long distances.

CONNECTORS: Component, RJ-45 | CABLE: CAT5,5e,6

CE Approval — Yes

- Extends 480i/p video up to 1000 feet (304.8 m) and 720p/1080i/p video up to 500 feet (152.4 m).
- ✦✦ **WARRANTY** — Lifetime

NOTE: Must be used in pairs.

Item	Code
Component Video/Digital Audio Balun	IC566A

VGA Baluns

Send VGA video signals over STP.

CONNECTORS: VGA, RJ-45 | CABLE: CAT5,5e,6

*VGA Display Female Balun (AC641A) shown installed in Surface Balun Mount (AC703A, **below**).*

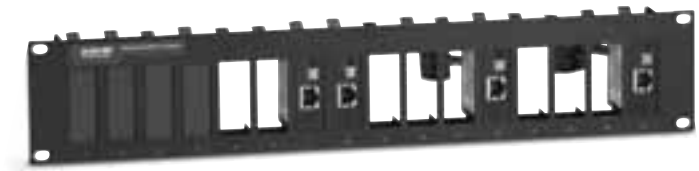
CE Approval — Yes
RoHS — Yes

- Uses economical 4-pair shielded twisted-pair (STP) cable.
- Support resolutions of 640 x 480 at up to 450 feet (137.1 m).
- ✦✦ **WARRANTY** — Lifetime

Item	Code
VGA Baluns	
(Order both a source and a display balun.)	
Source Male	AC640A
Display Female	AC641A
Display Male	AC642A

16-Slot Rackmount Balun Chassis • Balun Mounts

Organize your square audio/video baluns with this rackmount chassis and these wall/surface mounts.



*16-Slot Rackmount Balun Chassis (AC701A) shown with Blank Fillers, 4-Pack (AC701) and four VGA Source Male Baluns (AC640A, **above**) installed.*

16-Slot Rackmount Balun Chassis

- Holds 16 square baluns in a 2U 19" rack.
- For high-end cable management.
- Connects baluns for DVDs and other head-end equipment with CATx cabling in a wiring closet.
- Snap-in design for secure balun installation.
- Baluns install front- or rear-facing.
- Blank fillers available for unfilled slots.

ABSOLUTELY GUARANTEED FOR LIFE

CAT5 instead of expensive coax cable.

security and organization.

Component/Composite Video Balun

Extend high-end video.

CONNECTORS: Composite, Component, Screw Terminal — CABLE: CAT5

- Use CAT5 to extend Component video up to 1000 feet (304.8 m). Three pairs are required for the YPbPr connection.
- Or use one pair to send Composite video up to 2200 feet (670.5 m) over CAT5.
- ✦✦ **WARRANTY** — 1 Year

CE Approval — Yes

Item	Code
Component/Composite Video Balun	IC462A

Audio Baluns (Analog & Digital)

Make simple audio extensions over CAT5 cable.

CONNECTORS: RCA Audio, Screw Terminal — CABLE: CAT5

- Analog: up to 5000 feet (1524 m). For stereo, order two per side.
- Digital: up to 600 feet (182.8 m).
- ✦✦ **WARRANTY** — 1 Year

CE Approval — Yes

NOTE: Must be used in pairs.

Item	Code
Audio Baluns	
Analog	IC460A
Digital	IC461A

RGB Video Balun

Transmit RGB video up to 500 feet.

CONNECTORS: BNC, RJ-45 — CABLE: CAT5,5e,6

- Convert Component signals from three coax cables for extension over CATx cable.
- ✦✦ **WARRANTY** — 1 Year

CE Approval — Yes

NOTE: Must be used in pairs.

Item	Code
RGB Video Balun	IC442A-R3

✦ Includes (3) coax jumper cables.

Quad Audio Balun

Send four analog audio signals as far as 5000 feet.

CONNECTORS: RCA Audio, RJ-45 — CABLE: CAT5

- A great alternative to coax.
- Connectors: (4) RCA, (1) RJ-45.
- ✦✦ **WARRANTY** — Lifetime

CE Approval — Yes
RoHS — Yes

NOTE: Must be used in pairs.

Item	Code
Quad Audio Balun	IC565A-R2

S-Video Balun
S-Video Balun with Dual Audio Balun

Send S-Video and audio signals up to 1000 feet.

CONNECTORS: S-Video, RCA Audio, RJ-45 — CABLE: CAT5,5e,6

- Use with DVD players, set-top boxes, and other S-Video devices.
- IC449A has two audio channels.
- Work with the Video CCTV-A/V Hub (IC445A) on **page 41**.
- ✦✦ **WARRANTY** — Lifetime

CE Approval — Yes

NOTE: Must be used in pairs.

Item	Code
S-Video Balun	IC447A
S-Video Balun with Dual Audio Balun	IC449A

Dual Audio/Video Balun
Video/Stereo Audio Balun

Extend Composite video and audio signals over 2000 feet.

CONNECTORS: Composite, RCA Audio, RJ-45 — CABLE: CAT5,5e,6

- Dual Audio/Video Balun extends up to 2000 feet (609.6 m).
- Video/Stereo Audio Balun goes up to 2200 feet (670.6 m).
- Eliminate four coax cables.
- ✦✦ **WARRANTY** — IC446A: Lifetime; IC441A-R2: 1 Year

CE Approval — Yes

NOTE: Must be used in pairs.

Item	Code
Dual Audio/Video Balun	IC446A
Video/Stereo Audio Balun	IC441A-R2

*Wallmount Balun Mount (AC702A) shown holding the RGB Video Balun (IC442A-R3, **above**).*

Wallmount Balun Mount

- One-piece design supports most square baluns.
- Spring clip holds balun securely mounted forward or rear-facing.
- Attaches to gang boxes.

Surface Balun Mount

- One-piece design.
- Mount to walls or desks.

- ✦✦ **WARRANTY** — All: Lifetime

TECH SPECS

CE Approval — Yes
RoHS — Yes
Size — AC701A: 3.5"H x 19"W x 3"D (8.9 x 48.3 x 7.6 cm);
AC702A: 4"H x 1.3"W x 2.7"D (10.2 x 3.3 x 6.9 cm);
AC703A: 2.4"H x 3.4"W x 1.1"D (6.1 x 8.6 x 2.8 cm)
Weight — AC701A: 1.9 lb. (0.9 kg);
AC702A: 0.2 lb. (0.1 kg);
AC703A: 0.1 lb. (<0.1 kg)

Item	Code
16-Slot Rackmount Balun Chassis	AC701A
For unused chassis slots, order...	
Blank Fillers, 4-Pack	AC701
Balun Mounts	
Wallmount	AC702A
Surface	AC703A

Buyer's Guide | Splitters

For product details, see the **page** listed.

Video Standard	Solution Description	Maximum Resolution	Media	Code	Specific Component and Page
HDMI	**HDMI Splitters with Audio** Split HDMI® video and audio signals for 2, 4, or 8 outputs; feature 3.5-mm analog audio jacks for separate speaker connections.	1080p: HD, 1920 x 1200: DVI	HDMI	AVSP-HDMI1X2	1 x 2 Splitter with Audio, **p. 45**
				AVSP-HDMI1X4	1 x 4 Splitter with Audio, **p. 45**
				AVSP-HDMI1X8	1 x 8 Splitter with Audio, **p. 45**
DVI	**DVI Splitters** Split DVI signal for 2 or 4 outputs.	1600 x 1200: VGA, 1920 x 1200: DVI	DVI	AC1031A-R2-2	2-Channel Splitter, **p. 45**
				AC1031A-R2-4	4-Channel Splitter, **p. 45**
	DVI Splitters with Audio and HDCP Use to split DVI signal for 2 or 4 outputs and and reproduce HDCP protected content on connected screens.	1080p: HD, 1920 x 1200: DVI	DVI	AVSP-DVI1X2	1 x 2 Splitter, **p. 46**
				AVSP-DVI1X4	1 x 4 Splitter, **p. 46**
				AVSP-DVI1X8	1 x 8 Splitter, **p. 46**
VGA	**VGA Video Splitters** Use to split VGA input for 2, 4, or 8 outputs.	2048 x 1536: VGA	VGA	AC1056A-2	2-Channel Splitter, **p. 47**
				AC1056A-4	4-Channel Splitter, **p. 47**
				AC1056A-8	8-Channel Splitter, **p. 47**
	2-/4-Port Audio/Video Splitters Splitters featuring (1) VGA–audio in and (2) or (4) VGA–audio out.	2048 x 1536: VGA	VGA	AC650A-2	2-Port Splitter, **p. 47**
				AC650A-4	4-Port Splitter, **p. 47**
	4-Port XGA Video Splitter Splits XGA signal for four screens.	1600 x 1200: VGA	VGA	AC090A	4-Port XGA Video Splitter, **p. 47**

For other video splitters and broadcasters, see pages 66 – 67 in the Legacy Solutions section.

Check out these other signal-splitting products in our extenders section:

MediaCento™ HX 1 x 4 Transmitter

Reach multiple HD screens simply and affordably with this HDMI solution.

- Split and extend AV signals to four digital signage screens.
- Uses inexpensive CATe/CAT6 cable for uncompressed HDMI® signal extension.
- Supports single-link 225-MHz (6.75-Gbps) video bandwidth.
- Transmits 1080p video as far as 130 feet (40 m) over CATx.
- Has local HDMI output for monitoring or cascading units.
- For more information, see page 27.

Not only does it split the signal, but it's also a distribution amplifier that regenerates the HDMI signal for boosting video over a single solid CATx cable run.

Plus, the device supports single-link 225-MHz (6.75-Gbps) bandwidth for sharp full-motion rendering, synchronized video and audio with no perceivable delay, as well as Deep Color resolutions for enhanced color depth and refresh rates.

Wizard Multimedia Extender LP 4-Port Transmitter

Broadcast HD VGA video to four distant screens using line-powered receivers.

- Sends maximum resolutions at a maximum distance of 500 feet (152.4 m).
- Transmits power to receivers. Great for areas short on outlets and reducing cords at screens.
- Features feedthrough port for local monitoring or cascading units.
- For more information, see page 34.

This 4-port transmitter extends VGA video as far as 500 feet (152.4 m) using solid-conductor CATx cable.

Used with separately sold receivers, the transmitter broadcasts Full HD 1080p video to four screens in four locations over copper already installed in your building.

Even better, the receivers are line powered from the transmitter, so power isn't required at the remote end.

HDMI Splitters with Audio

Affordable splitters for duplicating digital video from one source on as many as eight HDMI displays.

CONNECTORS: HDMI, Audio | CABLE: Native | PERIPHERALS: Speakers

- Split an HDMI® signal between two, four, or eight outputs simultaneously.
- Provide accurate video reproduction without distortion and attenuation.
- Distribute audio via the HDMI ports or separate 3.5-mm analog audio jacks.
- Blu-ray ready for HD display.
- ✦✦WARRANTY — 1 Year

AVSP-HDMI1X8

Separate 3.5-mm jacks for audio!

Split and distribute HDMI video plus audio from a set-top box, PC, or other HDMI source device to eight digital screens. These devices split a source between two, four, or eight outputs simultaneously without signal loss.

Simply connect HDMI cables, power up the system, and you're ready to duplicate video. You can also cascade multiple units to broadcast to additional screens.

The splitters support HDMI display resolutions of up to UXGA (1600 x 1200), WUXGA (1920 x 1200), or Full HD 1080p (1920 x 1080). High bandwidth enables you to transmit information at high speeds.

Plus, they're fully HDCP compliant and support EDID display information.

Because they feature separate 3.5-mm jacks for distributing audio on each channel, the splitters are ideal for applications where, instead of the HDMI audio capabilities of the connected displays, you want to use existing high-power speakers and high-fidelity audio receiver equipment for audio output.

TECH SPECS

Resolution (Maximum) — PC: WUXGA (1920 x 1200): HDTV: 1080p (1920 x 1080)
CE Approval — Yes
RoHS — Yes
Connectors — Input: (1) HDMI F; (1) 3.5-mm audio; Output: (2), (4), or (8) HDMI F; (2), (4), or (8) 3.5-mm audio
Power — Input: 100–240 VAC, 50–60 Hz, autosensing; Output: 9–12 VDC;
Consumption: AVSP-HDMI1X2: 2.8 W; AVSP-HDMI1X4: 4.1 W; AVSP-HDMI1X8: 10.2 W
Size — AVSP-HDMI1X2: 0.8"H x 7.1"W x 3.4"D (2 x 17.8 x 8.6 cm); AVSP-HDMI1X4: 1.75"H (1U) x 8.7"W x 5.4"D (4.5 x 22.1 x 13.7 cm); AVSP-HDMI1X8: 1.75"H (1U) x 17.3"W x 7.1"D (4.5 x 44 x 18 cm)

NOTE: The quality of output depends largely on quality of source, HDMI cable, and display.

Item	Code
HDMI Splitters with Audio	
1 x 2	AVSP-HDMI1X2
1 x 4	AVSP-HDMI1X4
1 x 8	AVSP-HDMI1X8
✦ 1 x 8 model also includes (1) rackmount kit.	
To connect to DVI devices, order…	
HDMI Male to DVI Female Adapter	FA790
HDMI Male to DVI Male Adapter	FA795

DVI Splitters

Split your PC's DVI signals for display on two or four separate DVI screens.

CONNECTORS: DVI-I | CABLE: Native

- Route DVI video to two or four screens.
- Support analog VGA video, too.
- Accurately reproduce the signal without attenuation or distortion.
- Support DVI-I (integrated analog and/or digital) video signals.
- Can be cascaded up to two levels deep for additional outputs.
- ✦✦WARRANTY — 2 Years

AC1031A-R2-2

For distributing HD video to more than one display device, order a DVI Splitter.

Supporting a maximum resolution of 1920 x 1200 (WXGA) @ 60 Hz and 1080i for HDTVs, the splitters make it easy to use your computer to show a video presentation on multiple screens. They're also great for digital signage applications.

There's no software needed. The splitters offer simple, plug-and-play installation, so you can link to DVI-enabled monitors, projectors, or screens in minutes.

TECH SPECS

Distance (Maximum) — From PC to DVI monitors: 33 ft. (10 m)
Resolution (Maximum) — PC: 1920 x 1200 at 60 Hz; HDTV: 1080i
Standards — DDWG DVI 1.0; DVI-I Single Link
CE Approval — Yes
RoHS — Yes
Connectors — Input: (1) DVI-I; Output: (2) or (4) DVI-I
Power — Input: 100–240 VAC, 50–60 Hz, autosensing; Output: 12 VDC, 1 amp
Size — AC1031A-R2-2: 1.8"H x 6"W x 3"D (4.6 x 15.2 x 7.6 cm); AC1031A-R2-4: 1.8"H (1U) x 10.6"W x 4.1"D (4.6 x 26.9 x 10.4 cm)
Weight — AC1031A-R2-2: 1.5 lb. (0.7 kg): AC1031A-R2-4: 2.7 lb. (1.2 kg)

Item	Code
DVI Splitters	
2-Channel	AC1031A-R2-2
4-Channel	AC1031A-R2-4
✦ Both include (1) splitter, (1) DVI-I input cable, (1) power supply, and (1) user manual.	

DVI-D Splitters with Audio and HDCP

Broadcast HD video—even HDCP content—to two, four, or eight displays.

CONNECTORS: DVI-D | CABLE: Native | PERIPHERALS: Speaker

- Enable you to put digital video content before more customers and users.
- Simple-to-connect devices for broadcasting PC video on two, four, or eight monitors up to 210 feet (64 m) away.
- The 2- and 4-channel splitters feature 350-MHz bandwidth; the 8-channel model provides 300-MHz bandwidth.
- Fully HDCP compliant for showing Blu-ray player content.
- Work with EDID-capable screens for optimized video output.
- Cascadable for additional digital screen ports.
- Automatically enter power-save mode if input is lost.
- 1 x 4 and 1 x 8 versions can be rackmounted.
- ✦✦ **WARRANTY** — 1 Year

AVSP-DVI1X2

AVSP-DVI1X4

These affordably priced single-link DVI splitters enable you to accurately duplicate one HD video and stereo input for output to multiple screens.

You get accurate and reliable video output without signal distortion and attenuation, supporting display resolutions of up to Full HD (1920 x 1080) as well as WUXGA (1920 x 1200) and UXGA (1600 x 1200).

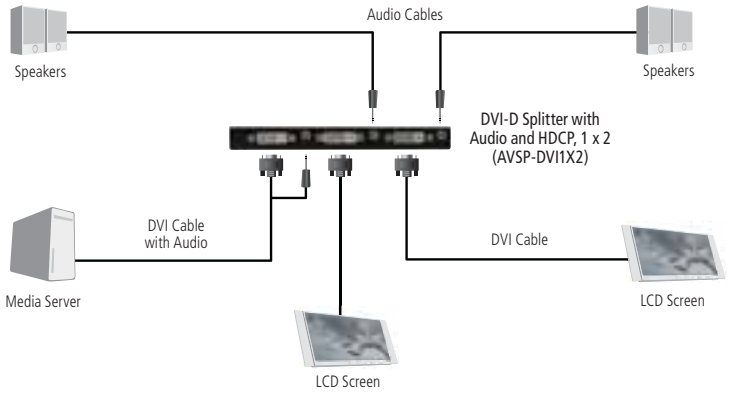
And because the switches are fully HDCP compliant, you can use them to distribute multimedia content from a Blu-ray player or other HDCP-protected source.

Plus, the splitters can be used with the newest EDID-capable screens. They obtain EDID data from the connected displays so your source device's video card is optimized for displaying video on those screens.

Simply connect the source device and screens, power up the splitter, and it's ready to duplicate source video on those displays. LEDs indicate signal activity on the connected ports.

To broadcast to additional screens from the same player or other source, order multiple splitters and connect them together via cascaded ports.

You can also use the splitters with HDMI® compatible devices. Just order an adapter for each DVI port on your splitter.



NOTE: Maximum resolutions depend on the type of AV equipment and the quality and the length of the DVI cables.

CE Approval — Yes
RoHS — Yes

Item	Code
DVI-D Splitters with Audio and HDCP	
1 x 2	AVSP-DVI1X2
1 x 4	AVSP-DVI1X4
1 x 8	AVSP-DVI1X8

✦ All include (1) splitter and (1) set of rubber feet. The 1 x 4 and 1 x 8 models also include (2) rackmounting ears.

You may also need…

Digital Visual Interface (DVI) Cable, DVI-D Male, Straight Hood/DVI-D Male, Straight Hood	
6-ft. (1.8-m)	EVNDVI02-0006
10-ft. (3.0-m)	EVNDVI02-0010

DVI-D Splitters with Audio and HDCP are ideal for:

- Retail and corporate digital signage.
- Broadcast rooms and studios.
- Process control and engineering.
- Healthcare and R&D imaging.
- Classrooms and training rooms.
- Government command centers.
- Conference rooms and boardrooms.
- Temporary setups at trade shows.

VGA Video Splitters

Send eye-catching presentations over 200 feet away with these cascadable splitters.

CONNECTORS: VGA | CABLE: Native

- Simple-to-connect devices for broadcasting PC video on two, four, or eight monitors up to 210 feet (64 m) away.
- The 2- and 4-channel splitters feature 350-MHz bandwidth; the 8-channel model provides 300-MHz bandwidth.
- Cascadable for additional monitor ports.
- ✦✦WARRANTY — 1 Year

Top left: AC1056A-4 rear view; top right: AC1056A-2 rear view; bottom: AC1056A-8 rear view

Great for splitting video to trade show or retail displays, or for displaying video on multiple monitors in classrooms, our VGA Video Splitters offer quick setup and easy use.

Just connect the VGA cables and power up your system, and you're ready to start duplicating VGA images for multiple monitors.

You can even cascade units to increase VGA outputs and connect more monitors.

The splitters support 1920 x 1440 at 70 Hz resolution, and provide clear, sharp images whether you're using VGA, Super VGA (SVGA), or multisync monitors.

CE Approval — Yes
RoHS — Yes

Item	Code
VGA Video Splitters	
2-Channel	AC1056A-2
4-Channel	AC1056A-4
8-Channel	AC1056A-8

✦ All include (1) splitter, (1) 5-ft. HD15 male/HD15 male VGA input cable and, depending on the model ordered, (1), (3), or (7) 10-ft. HD15 male/HD15 female VGA output cable(s).

2-/4-Port Audio/Video Splitters

Transmit video and audio signals from one PC to two or four VGA monitors.

CONNECTORS: VGA | CABLE: Native | PERIPHERALS: Speaker

- Support monitor resolutions up to 2048 x 1536 at 60 Hz and pixel resolutions up to 400 MHz.
- Place monitors up to 213.2 feet (65 m) away.
- Compatible with a broad range of interfaces, including VGA, SVGA, XGA, UXGA, QXGA, and multisync.
- VESA DDC, DDC2, DDC2B support.
- Equipped with 3.5-mm audio jacks.
- ✦✦WARRANTY — 1 Year

Top: AC650A-4 front view; bottom: AC650A-4 rear view

CE Approval — Yes

Item	Code
Audio/Video Splitters	
2-Port	AC650A-2
4-Port	AC650A-4

4-Port XGA Video Splitter

Send one XGA or VGA signal to four monitors.

CONNECTORS: VGA | CABLE: Native

- All four channels support a standard distance of 100 to 200 feet (30.4 to 60.9 m), depending on the resolution.
- Or configure two of the channels to support distances of up to 600 feet (182.8 m) without a video booster.
- 250-MHz bandwidth supports resolutions up to 1600 x 1200 (UXGA).
- Shielded enclosure protects against EMI/RFI interference.
- ✦✦WARRANTY — 2 Years

CE Approval — Yes
RoHS — Yes

Item	Code
4-Port XGA Video Splitter	
	AC090A

For more VGA splitters, see our Legacy Solutions, pp. 66 – 67.

Buyer's Guide | Switches

For product details, see the **page** listed.

Standard	Description	Max. Resolution	Max. Distance	Audio	DDC	HDCP	Code	Component, page number
DisplayPort	**DisplayPort Switches** 2 x 1 and 4 x 1 units for switching multiple DisplayPort sources for display on one DisplayPort screen.	1080p: HDTV; 1920 x 1200: DVI-D	16.4 ft.	—	•	•	AVSW-DP2X1	2 x1 Switch, p. 49
				•	•	•	AVSW-DP2X1A	2 x1 Switch with Serial and 3.5-mm Audio, p. 49
				•	•	•	AVSW-DP4X1A	4 x1 Switch with Serial and 3.5-mm Audio, p. 49
HDMI	**HDMI Switches** 2 x 1 and 4 x 1 units for switching multiple HDMI sources for display on one HDMI screen.	1080p: HDTV; 1920 x 1200: DVI-D	16.4 ft.	—	•	•	AVSW-HDMI2X1	2 x1 HDMI Switch, p. 50
				—	•	•	AVSW-HDMI4X1	4 x1 HDMI Switch, p. 50
	HDMI Switches with Audio & Serial Control Same switches as **above** but with 3.5-mm audio support and a remote RS-232 management option.	1080p: HDTV; 1920 x 1200: DVI-D	16.4 ft.	•	•	•	AVSW-HDMI2X1A	2 x1 HDMI Switch with Audio and Serial Control, p. 50
				•	•	•	AVSW-HDMI4X1A	4 x 1 HDMI Switch with Audio and Serial Control, p. 50
	HDMI Matrix Switches 2 x 2, 2 x 4, 4 x 2, and 4 x 4 units for switching multiple HDMI sources to multiple HDMI screens.	1080p: HDTV; 1920 x 1200: DVI-D	16.4 ft.	•	—	•	AVSW-HDMI2X2	2 x 2 HDMI Matrix Switch, p. 50
							AVSW-HDMI2X4	2 x 4 HDMI Matrix Switch, p. 50
							AVSW-HDMI4X2	4 x 2 HDMI Matrix Switch, p. 50
							AVSW-HDMI4X4	4 x 4 HDMI Matrix Switch, p. 50
DVI	**DVI-D Switches** 3 x 1, 4 x 1, and 8 x 1 units for switching between multiple DVI-D sources.	1080p: HDTV; 1920 x 1200: DVI-D	16.4 ft.	—	—	•	VSW-DVI3X1	3 x 1 DVI-D Switch, p. 51
							VSW-DVI4X1	4 x 1 DVI-D Switch, p. 51
							VSW-DVI8X1	8 x 1 DVI-D Switch, p. 51
	DVI-D Matrix Switch with Audio & Serial Control 8 x 8 unit for switching multiple DVI/audio sources to multiple screens and controlling via an RS-232 console.	1080p: HDTV; 1920 x 1200: DVI-D	16.4 ft.	•	—	—	AVSW-DVI8X8	DVI-D Matrix Switch with Audio and Serial Control, p. 51
	2 x 4 DVI-D Matrix Switch with Audio For switching multiple DVI/audio sources to multiple screens.	1080p: HDTV; 1920 x 1200: DVI-D	16.4 ft.	•	—	—	AC1124A	2 x 4 DVI-D Matrix Switch with Audio, p. 51
	4 x 2 DVI-D Matrix Switch with Audio & Serial For switching multiple DVI/audio sources to multiple screens; RS-232 support.	1080p: HDTV; 1920 x 1200: DVI-D	16.4 ft.	•	—	—	AC1125A	4 x 2 DVI-D Matrix Switch with Audio and Serial Control, p. 51
	DVI Switches with Audio and Serial 2- and 4-channel units for switching DVI/ audio sources to multiple screens via an RS-232 serial connection.	1080p: HDTV; 1920 x 1200: DVI-D	50 ft. (output); 65 ft. (input)	•	•	•	AC1032A-2A	2-Channel DVI Switch, p. 51
							AC1032A-4A	4-Channel DVI Switch, p. 51
VGA	**VGA Switches with Serial and 3.5-mm Audio** 4 x 1 and 8 x 1 units for switching VGA and audio to a single screen with push button, serial, and IR remote switching control.	1600 x 1200: VGA	150 ft.	•	—	—	AVSW-VGA4X1A	4 x 1 Switch, p. 52
							AVSW-VGA8X1A	8 x 1 Switch, p. 52
	Compact VGA Switches 2 x 1 and 4 x 1 units for switching VGA sources to a screen.	1600 x 1200: VGA	150 ft.	—	—	—	AC505A	2 x 1 Switch, p. 52
							AC506A	4 x 1 Switch, p. 52
	Compact VGA Switches with Audio 2 x 1 and 4 x 1 units for switching VGA and audio sources to a screen.	1600 x 1200: VGA	150 ft.	•	—	—	AC505A-2A-R2	2 x 1 Switch with Audio, p. 52
							AC506A-4A	4 x 1 Switch with Audio, p. 52
	VGA Matrix Switches 2 x 4 and 2 x 8 units for switching two VGA sources to multiple screens.	1920 x 1440: VGA	213 ft.	—	•	—	AC508A	2 x 4 Video Matrix Switch, p. 53
							AC509A	2 x 8 Video Matrix Switch, p. 53
	ServSwitch Matrix Video Switch 4 x 4 unit for switching VGA sources to multiple screens.	1600 x 1200: VGA	150 ft. (total cable)	—	•	—	ACL0404A	ServSwitch Matrix Video Switch, p. 53
	VGA Matrix Switches + Serial 8 x 8 and 16 x 16 units for routing VGA to multiple screens.	1080p: TV; 1900 x 1200: VGA	150 ft.	—	—	—	AC1120A	8 x 8 Switch with Serial, p. 54
							AC1122A	16 x 16 Switch with Serial, p. 54
	VGA Matrix Switches (VGA) with Audio + IP and Serial Control 8 x 8 and 16 x 16 units for routing VGA and audio to multiple screens, plus IP control.	1080p: TV; 1900 x 1200: VGA	150 ft.	•	—	—	AC1121A	8 x 8 Switch with Audio + IP and Serial Control, p. 54
							AC1123A	16 x 16 Switch with Audio + IP and Serial Control, p. 54
	VGA Matrix Switches (RJ-45) with Audio + Serial Control 8 x 8 and 16 x 16 units for VGA video/audio switching on RJ-45 ports with built-in extender transmitters.	1080p: TV; 1900 x 1200: VGA	Depends on receiver(s) used on RJ-45 runs.	•	—	—	AC1120A-RJ45	8 x 8 Switch with Audio + Serial Control (RJ-45 Outputs), p. 54
							AC1122A-RJ45	16 x 16 Switch with Audio + Serial Control (RJ-45 Outputs), p. 54

For other video switches, see page 67 and page 69. For keyboard, video and mouse type of switches, see blackbox.eu.

DisplayPort Switches

Switch two or four DisplayPort sources to a single DisplayPort display.

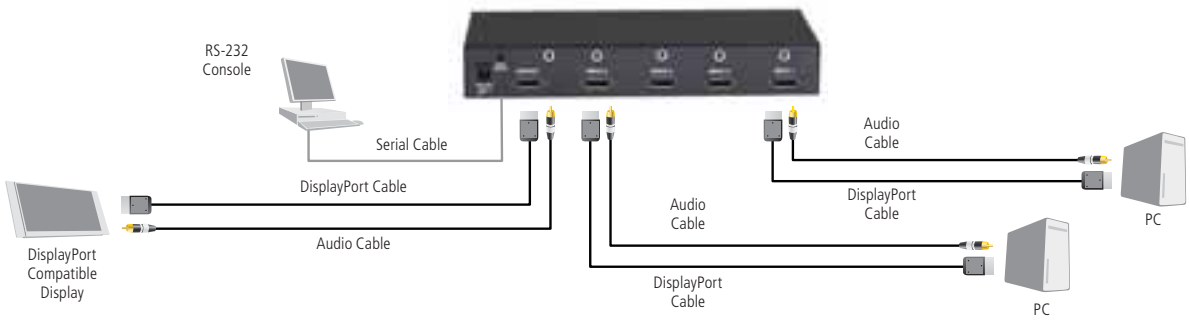
CONNECTORS	CABLE	FEATURES	SWITCHING		
DisplayPort	Native	Speaker	Push Button	Serial	IR Remote

AVSW-DP4X1A

Switch on newer DisplayPort computers!

AVSW-DP2X1A

DisplayPort Switch with Serial and 3.5-mm Audio, 4 x 1 (AVSW-DP4X1A)



- Switch between two or four DisplayPort sources for output on a high-resolution DisplayPort display.
- Support HD resolutions up to 1080p.
- Plug and play. No software required for operation.
- All support both audio and video simultaneously on the DisplayPort connectors.
- Models with audio and serial feature separate 3.5-mm audio ports plus an RS-232 port for serial control.
- HDCP compliant for protected content.
- ✦✦**WARRANTY** — 1 Year

NOTE: HDCP content displays on the selected source only; rebooting may be necessary when switching between HDCP content sources.

For DVI Cables and Adapter Cables for HDMI, DVI, and VGA, see **p. 70**.

Switch between video from DisplayPort equipped electronics devices for reliable output on a DisplayPort compatible display. The switches eliminate the need to manually switch DisplayPort cables between sources.

All models can be controlled using a push button.

The DisplayPort Switches with Serial and 3.5-mm Audio also support RS-232 switching control, as well as control with an IR remote controller. With the separate audio channel, you can transmit analog audio to external speakers in a digital signage or other multimedia distribution application.

On all three models, LEDs indicate which AV equipment source is being displayed.

Ideal for conference rooms and classrooms, the switches feature latching connectors for more secure inputs and outputs—great for areas prone to accidental unplugging of AV equipment.

TECH SPECS

Resolution (Maximum) — Full HD (1920 x 1080)
CE Approval — Yes
RoHS — Yes
Connectors — Video inputs: (2) or (4) DisplayPort 1.1 F;
Video outputs: (1) DisplayPort 1.1 F;
AVSW-DP2X1A and AVSW-DP4X1A also have:
Audio inputs: (2) or (4) 3.5-mm audio jacks;
Audio output: (1) 3.5-mm audio jack;
Serial control: (1) 1.7-mm jack
Power — External: Input: 100–240 VAC, 50–60 Hz;
Output: AVSW-DP2X1, AVSW-DP2X1A:
12 VDC, 1.5 A (max.);
AVSW-DP4X1A: 9 VDC, 1.5 A (max.)
Size — AVSW-DP2X1: 0.8"H x 6.2"W x 2.6"D (2 x 15.7 x 6.6 cm);
AVSW-DP2X1A, AVSW-DP4X1A:
1.4"H x 8.7"W x 3.9"D (3.6 x 22.1 x 10 cm)
Weight — AVSW-DP2X1: 0.7 lb. (0.3 kg);
AVSW-DP2X1A: 1.4 lb. (0.6 kg);
AVSW-DP4X1A: 1.6 lb. (0.7 kg)

Item	Code
DisplayPort Switch	
2 x 1	AVSW-DP2X1
DisplayPort Switch with Serial and 3.5-mm Audio	
2 x 1	AVSW-DP2X1A
4 x 1	AVSW-DP4X1A

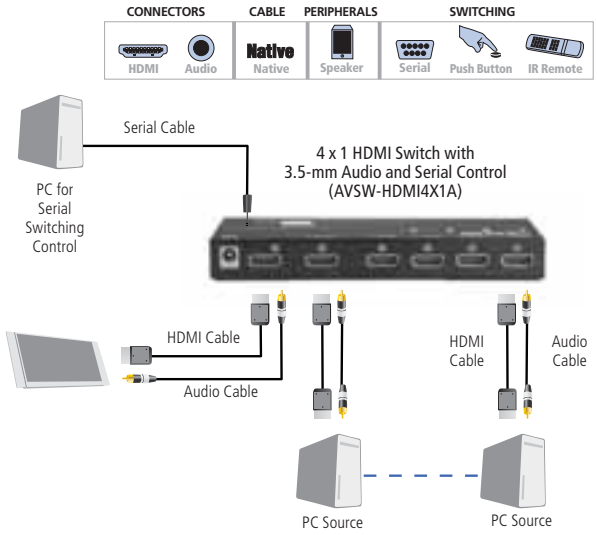
✦ Both include (1) IR remote and (1) serial cable.

HDMI Switches • HDMI Switches with Audio and Serial Control

For switching between multiple sources for display on a common HDMI screen.

- Support HD resolutions up to 1080p and PC resolutions up to WUXGA.
- Plug and play. No software required for operation.
- DDC2B compatible for connections to newer digital displays.
- HDCP 1.1 compliant for protected content.
- ✦✦ **WARRANTY** — 1 Year

AVSW-HDMI2X1



Ideal for meeting rooms, these switches eliminate having to manually switch various HDMI cables between sources for showing video on a single HDMI screen.

On the standard models, you switch using a single top-panel push button. LEDs indicate which source is being displayed.

The switches with audio and serial connectors, however, can be controlled from front-panel push buttons, an IR remote, or an RS-232 console. They support serial control as well as unidirectional audio on two or four 3.5-mm jacks (amplified audio input recommended).

CE Approval — Yes
RoHS — Yes

Item	Code
HDMI Switches	
2 x 1	AVSW-HDMI2X1
4 x 1	AVSW-HDMI4X1
HDMI Switches with 3.5-mm Audio and Serial Control	
2 x 1	AVSW-HDMI2X1A
4 x 1	AVSW-HDMI4X1A

✦ 4 x 1 model also includes a rackmount kit.

HDMI Matrix Switches

Matrix switching for HDMI sources and devices.

- Switch multiple digital sources to multiple digital displays in any combination.
- Control from the front panel, with the included IR remote, or from an RS-232 connection.
- Support resolutions up to 1080p.
- HDCP compliant for protected content.
- Signal boosters on the ports amplify HDMI signals up to 60 feet (18.2 m).
- Support the latest HDMI audio formats, including Dolby® TrueHD and DTS-HD.
- ✦✦ **WARRANTY** — 3 Years

AVSW-HDMI4X4

Featuring a maximum bandwidth of 6.75 Gbps, these HDMI Matrix Switches support sharp, highly defined video in HD resolutions of up to 1080p.

Any input can be routed to any output, or the same input can be routed to all outputs or any combination, eliminating the need to manually move cables to display HDMI video from different sources on different screens.

Ideal for corporate theaters, meeting rooms, classrooms, and broadcasting studios, the HDMI Matrix Switches carry the high-speed digital video signaling of TMDS formats for 12-bit Deep Color.

Switch using front-panel buttons, the included IR remote controller, or an RS-232 connection linked to a Crestron, AMX, or any other computerized control system.

What's more, the HDMI Matrix Switches have an IR signal extension port (and include an IR extender receiver), which enables you to use the IR remote controller to switch ports on the unit from another room, up to 984 feet (300 m) away.

CE Approval — Yes
RoHS — Yes

Item	Code
HDMI Matrix Switches	
2 x 2	AVSW-HDMI2X2
2 x 4	AVSW-HDMI2X4
4 x 2	AVSW-HDMI4X2
4 x 4	AVSW-HDMI4X4

✦ All include (1) switch, (1) IR remote controller, and (1) RS-232 cable.

DVI Switches

Switch DVI video from multiple sources to a single DVI screen.

CONNECTORS: DVI-D | CABLE: Native | SWITCHING: Push Button, IR Remote, Serial

VSW-DVI3X1

NOTE: Support digital video only.

- Switch on the front panel or from the included IR remote
- Route video from three, four, or eight sources.
- HDCP compliant.
- Tested to guarantee resolution up to 1080p without signal degradation.
- Amplifies video more than 60 feet (18.2 m).
- ✦✦ **WARRANTY** — 3 Years

CE Approval — Yes
RoHS — Yes

Item	Code
DVI Switches	
3 x 1	VSW-DVI3X1
4 x 1	VSW-DVI4X1
8 x 1	VSW-DVI8X1

✦ Include (1) switch and (1) IR remote controller.

DVI Matrix Switches with Audio & with Audio and Serial Control

High-resolution matrix switching for demanding DVI applications.

CONNECTORS: DVI-I | CABLE: Native | FEATURES: Speaker | SWITCHING: IR Remote, Push Button, Serial

- Easily route video signals from two or four DVI sources to four or two DVI display devices (LCDs, projectors, etc.) and speakers.
- Switch using the front-panel buttons or with the included remote control unit. The AC1125A also offers RS-232 control.
- Auto Scan with user-selectable scan intervals.
- Switch both video and audio directly, and turn both video and audio on or off at each individual port.
- ✦✦ **WARRANTY** — 1 Year

AC1124A

NOTE: Support digital video only.

CE Approval — Yes
RoHS — Yes

What's included:

- DVI Matrix Switch
- Remote control unit
- Mounting plate and hardware
- Set of rubber footpads
- Serial RS-232 cable (AC1125A only)

Item	Code
2 x 4 DVI Matrix Switch with Audio	AC1124A
4 x 2 DVI Matrix Switch with Audio and Serial Control	AC1125A

DVI Matrix Switch with Audio

Easy matrix DVI switching for busy AV applications.

CONNECTORS: DVI-D, Audio | CABLE: Native | PERIPHERALS: Speaker | SWITCHING: Push Button, IR Remote, Serial

- Route video from eight DVI sources to eight DVI displays with audio.
- Switch on front panel, from the included IR remote, or via RS-232 control input using CLI strings.
- Resolutions up to 1920 x 1200.
- Input distances of up to 70 feet (21.3 m).
- Saves EDID data from displays.

AVSW-DVI8X8

- ✦✦ **WARRANTY** — 3 Years

NOTE: Supports digital video only.

CE Approval — Yes
RoHS — Yes

Item	Code
DVI Matrix Switch, 8 x 8, with Audio	AVSW-DVI8X8

✦ Includes (1) switch, (1) IR remote controller, (1) RS-232 cable, and (1) software CD.

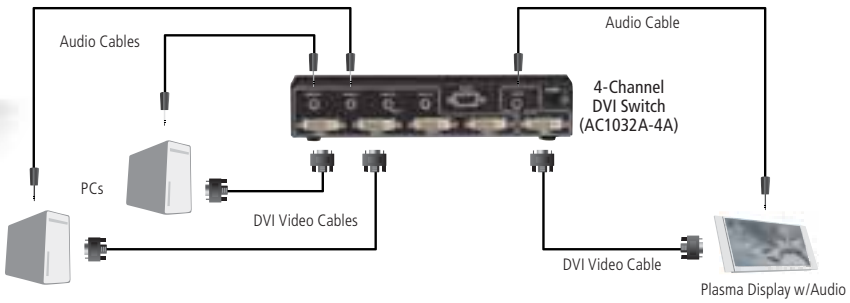
DVI Switches with Audio and Serial Control

Route multiple DVI video and audio inputs to a single display.

CONNECTORS: DVI-I, Audio | CABLE: Native | FEATURES: Speaker | SWITCHING: Push Button, Serial

AC1032A-4A

- Switch from multiple DVI devices to a common DVI display using an RS-232 console.
- Resolutions up to 1600 x 1200 on PCs and 1080p on HDTVs.
- Support input cabling up to 65 feet (19.8 m) and drive DVI signals up to 50 feet (15.2 m).
- Skip unused inputs automatically.
- For more information, see **blackbox.eu**.
- ✦✦ **WARRANTY** — 2 Years



NOTE: Support digital video only.

CE Approval — Yes
RoHS — Yes

Item	Code
DVI Switches with Audio and Serial Control	
2-Channel	AC1032A-2A
4-Channel	AC1032A-4A

VGA Switches with Serial and 3.5-mm Audio

Switch between four or eight VGA sources for output on a single HD display or projector.

CONNECTORS: VGA | CABLE: Native | FEATURES: Speaker | SWITCHING: Push Button, Serial, IR Remote

AVSW-VGA4X1A

What's included:

- VGA Switch with Serial and Audio
- (1) power supply
- (4) rubber feet
- (1) serial DB9 to 1.7-mm barrel adapter
- (2) rackmount ears with screws
- User manual

- Route video plus audio from multiple sources to a single display.
- Provide high-resolution output, up to 1920 x 1200 and 1920 x 1440 VGA resolutions, as well as Full HD 1080p (1920 x 1080).
- Support serial switching control function plus IR control.
- LEDs show your selected VGA input source.
- Rackmountable. Hardware included.
- ✦✦WARRANTY — 1 Year

Use these low-priced, highly reliable VGA Switches with Serial and Audio anywhere you need to route both video and audio from four PCs or other VGA sources to a common display, and enjoy high resolutions on the screen.

They're ideal for classrooms, control centers, and digital signage applications, as well as for use at meetings and seminars where you need to switch between multiple sources for output on a VGA monitor or through a VGA projector.

The switches work with an array of VGA, SVGA, and multisync monitors.

In addition, the switches are easy to set up and use with front-panel push button switching control or control from an RS-232 workstation. Because they support IR remote passthrough, you can also control switching in the vicinity of the VGA screens with a remote controller.

CE Approval — Yes
RoHS — Yes

Item	Code
VGA Switches with Serial and 3.5-mm Audio	
4 x 1	AVSW-VGA4X1A
8 x 1	AVSW-VGA8X1A

Compact VGA Switches

Switch between VGA sources from a central location.

CONNECTORS: VGA | CABLE: Native | FEATURES: Speaker | SWITCHING: Push Button, Serial

AC505A-2A-R2

- Control manually by pushing a button or via an RS-232 control device (serial cable is included).
- Enable video cable distances up to 150 feet (45.7 m) and crisp 1600 x 1200 resolution—buffered output protects the signal integrity.
- All except the AC505A can be set up to cycle between video sources automatically.
- You can also blank and unblank an output via a serial port command.
- Fit into tight spaces and withstand heavy use.
- Audio versions feature 3.5-mm stereo jacks and an RFI shielded steel enclosure.
- ✦✦WARRANTY — 2 Years

Compact VGA Switches go much farther than ordinary video switches in both the distance and resolution they support.

These solid-state, electronic switches not only use boosters to drive VGA video signals up to 150 feet (45.7 m), they also offer a crisp resolution of up to 1600 x 1200.

Use the switches, for instance, in a conference room where two or four laptop users can take turns projecting their screen images onto a single big-screen VGA monitor.

They're also useful anywhere you need to use fewer monitors for displaying video sources.

Control switching via an attached RS-232 device (serial control cable is included). You can also blank output from one source or switch manually.

CE Approval — Yes
RoHS — Yes

Item	Code
Compact VGA Switches	
2 x 1	AC505A
2 x 1 with Audio	AC505A-2A-R2
4 x 1	AC506A
4 x 1 with Audio	AC506A-4A

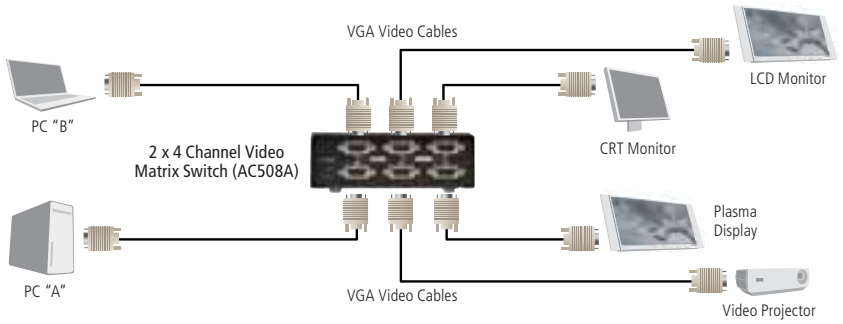
✦ All switches include (1) serial cable. The AC505A also includes (1) push button cable.

Video Matrix Switches

Show video from two separate sources on multiple displays.

CONNECTORS: VGA | CABLE: Native | SWITCHING: Push Button

AC508A



- Share four or eight video display devices between two computers.
- Front-panel buttons enable you to receive the image from either PC.
- Cascadable for even more flexibility in expanded setups.
- Built-in video signal enhancement for placing monitors up to 213.2 feet (65 m) away.
- Work with VGA, SVGA, XGA, and multisync display devices.
- Comply with VESA DDC, DDC2, and DDC2B standards (for video out Ports 1 and 2).
- Ideal for multimedia control rooms or stations, test bench facilities, classrooms, or distributing media from the data center.
- ✦✦WARRANTY — 1 Year

These Video Matrix Switches combine video sharing and video splitter capabilities in one compact device.

With one of these switches, you can share up to eight video display devices between two computers. Intelligent functionality enables you to use a range of devices, from CRT and LCD monitors to video projectors.

The switches support 1920 x 1440 resolution and provide 250-MHz bandwidth for clarity and integrity when connecting multiple sources to multiple screens.

What's more, a built-in signal booster amplifies and extends video signals more than 200 feet—making the switches great for remote display applications where you want to distribute images from a central secure room to public or non-secure areas.

Lightweight and easy to set up, they can be used by demonstrators at trade shows or conferences to disseminate graphically rich content on multiple screens viewed by visitors. To cascade switches for an expanded setup, simply run a video cable from the "Video Out" port of one switch to the "Video In" port of the second switch.

Even better, their heavy-duty cases can withstand the rigors of temporary installations requiring quick setups and teardowns.

CE Approval — Yes

Item	Code
Video Matrix Switches	
2 x 4	AC508A
2 x 8	AC509A

ServSwitch Brand Matrix Video Switch

Mix and match video displays from four PCs.

CONNECTORS: VGA | CABLE: Native | SWITCHING: Keypad, Serial

- Send video from up to four PCs to up to four video monitors in any combination.
- Show something different on each screen or the same video on each screen.
- All inputs are terminated and all outputs are buffered.
- Supports cabling up to 150 feet (45.7 m)—all outputs are buffered using special video amplifiers.
- Compatible with SVGA (RGBHV), RGBS, or RGsB with resolutions up to 1600 x 1200 pixels.
- ✦✦WARRANTY — 2 Years

Share and switch between four video sources for output to multiple monitors or displays with this high-bandwidth, keypad- or PC-controllable VGA/SVGA switch.

The ServSwitch™ Brand Matrix Video Switch is just what you need to set up a presentation for your trade show booth and provide real-time information updates on multiple screens.

The buffered outputs feature special video amplifiers for clear video at resolutions up to 1600 x 1200.

No special cables are required for source and screen connections. The switch uses ordinary VGA cable for all inputs and outputs.

CE Approval — Yes
RoHS — Yes

Top: front view; bottom: rear view

Item	Code
ServSwitch™ Brand Matrix Video Switch	
4 x 4	ACL0404A

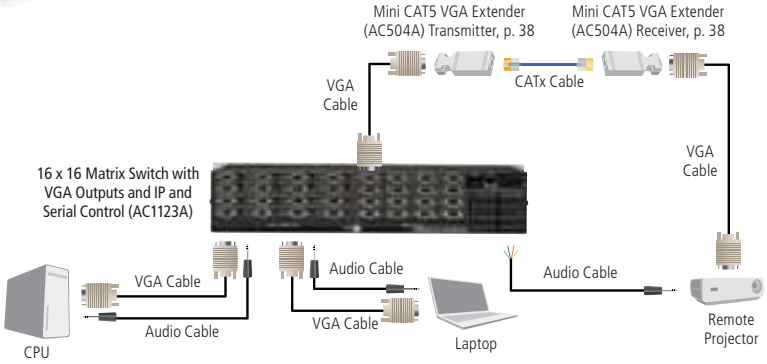
✦ Includes (1) power supply and (1) keypad.

VGA Matrix Switches

These programmable switches make it easy to route VGA and 1080p HD video to multiple screens!

AC1121A

Versions for switching via an IP link!



- Ideal for digital signage systems where you want to switch source inputs for output on various screens.
- For cross-point switching of PC or HD (VGA or YPbPr) video signals.
- Order with 16 or 32 ports (8 input/8 output or 16 input/16 output).
- Program to switch at specific times.
- ✦✦**WARRANTY** — 2 Years

These high-end matrix switches give you an easy way to set up cross-point switching in a digital signage, multimedia distribution, or command and control application. Or use them to broadcast from an input to multiple outputs.

They're compatible with PC video from 640 x 480 to 1920 x 1600, plus analog SD or HDTV Component video (YPbPr) from 480i to 1080p.

The switches provide 8 or 16 outputs, each capable of independently displaying any of 8 or 16 inputs in any combination. Plus, the outputs can be blanked out or muted. For audio support, order the AC1121A, AC1123A, AC1120A-RJ45, or AC1122A-RJ45.

Control the matrix manually using front-panel buttons or electronically through one or two serial ports. Through these independent RS-232 interfaces (a screw terminal and an RJ-45 port), you can switch the system remotely.

All models enable you to see switch ties either from the input or output side by looking at the front panel. Intuitive keypads enable you to check channel status and configure new ties at the push of a button.

Store up to 8 or 16 preset routing patterns for easy recall later. You can also program them to switch automatically between preset patterns at certain times of the day.

To also switch remotely over an IP link, order the AC1121A or AC1123A. Both support matrix switching via their 10/100 port using Telnet™ or Virtual Serial Port Driver.

All models with VGA output can be used with our Mini CAT5 Extenders (**page 38**) to extend VGA to distant displays. However, the RJ-45 models have the transmitters built in.

TECH SPECS

Resolutions Supported (Maximum) — 1900 x 1200 at 60 Hz (PC), 1080p (HD)
CE Approval — Yes
RoHS — Yes
Connectors — Video input: (8) or (16) HD15 F (VGA);
Video output: AC1120A–AC1123A: (8) or (16) HD15 F (VGA);
AC1120A-RJ45, AC1122A-RJ45: (8) or (16) RJ-45 with built-in VGA extender transmitters;
Audio: AC1121A, AC1123A, AC1120A-RJ45, AC1122A-RJ45 only: Input: (8) or (16) 3.5-mm jacks; Output: (8) or (16) screw terminals;
Serial (RS-232) control: (1) 3-screw terminal with detachable mating connector, (1) RJ-45 (auxiliary);
IP control: AC1121A, AC1123A only: (1) RJ-45 (10BASE-T/100BASE-TX)
Power — 100–240 VAC, 50–60 Hz, autosensing
Size — 3.5"H (2U) x 19"W x 12.8"D (8.9 x 48.3 x 7.2 cm)
Weight — 9.4 lb. (4.3 kg)

Item	Code
VGA Matrix Switches	
VGA Outputs + Serial Control	
8 x 8	AC1120A
16 x 16	AC1122A
VGA Outputs with Audio + IP and Serial Control	
8 x 8	AC1121A
16 x 16	AC1123A
RJ-45 Outputs with Audio + Serial Control	
8 x 8	AC1120A-RJ45
16 x 16	AC1122A-RJ45
To connect a remote screen via the output on an AC1120A–AC1123A switch, order a transmitter–receiver kit…	
Mini CAT5 VGA Extender Kit *(For details as well as 2- and 4-channel transmitter versions, see **p. 38**.)*	AC504A
To connect the output on the AC1120A-RJ45 and AC1122A-RJ45 to a remote screen, order:	
Mini CAT5 VGA Extender Receiver *(For details, see **p. 38**.)*	AC602A
…or order the single-gang wallplate version that mounts in a junction box…	
Mini CAT5 VGA Extender Receiver Wallplate *(For details, see **p. 38**.)*	AC504A-WP-R
FOR OPTIMUM PERFORMANCE, and a **20% savings,** order…	
VGA Video Cable with Ferrite Core, PVC, HD15, Male/Male *(For other lengths and genders, see **p. 72**.)*	
50-ft. (15.2-m)	EVNPS06-0050-MM
100-ft. (30.4-m)	EVNPS06-0100-MM

Case Study:

Medical Center

Project: Integrated operating room (OR) video system

Major challenge: Completely customized design

Major benefit: Savings of $40,000 per OR; easy touchscreen operation

A medical center in suburban Pittsburgh embarked on a two-year, $17.5-million construction project to add eight modern operating room (OR) suites. The ORs feature a state-of-the-art integrated OR video system, which greatly enhances the surgical teams' capabilities, especially in the areas of laparoscopic, vascular, and cardiothoracic surgery. The video system was a custom collaboration between the team leader of clinical engineering at the medical center and Black Box.

"I looked at turnkey solutions, but they were cost-prohibitive—in the range of $50,000–$100,000 per OR," he explained. "To design a system myself, I knew I needed a technology partner, so I called Black Box."

A Black Box team met with the medical center's engineering team to discuss the system. The medical center wanted a technologically unified system that integrated advanced surgical and medical equipment with a streamlined, high-resolution digital video system. They also wanted a fast, easy-to-use system and a way to get the cables off the OR floor.

Armed with this list, the Black Box team went to work. The lead Black Box engineer designed a solution based on a DVI Matrix Switch (**page 51**) and ServSwitch™ Wizard SRX DVI-D Plus USB Extender units (see **blackbox.eu**). To ensure compatibility and workability in the OR, the lead engineer performed extensive testing in a simulated environment.

Then the lead engineer turned to the problem of how to make the system intuitive and fast, as surgeons would call out what display they wanted and the nurses had to respond immediately. The solution was custom software for a simple touchscreen operation. To switch between monitors and equipment, all the nurse has to do is touch the screen.

To solve the problem of getting the tangle of cables off the OR floor, Black Box bundled CATx cables and shipped them to the medical boom arm manufacturer for pre-installation.

The clinical engineering team leader at the medical center estimates that the Black Box system saved him $40,000 per OR. "I looked at other systems," he explained. "I knew Black Box had video equipment and together we could figure out how to do this more cost effectively. And we did."

"Black Box has been a joy to work with. They have quality products and they know them inside and out. And their tech support team is there when you need them. Black Box was truly my partner in this project. I couldn't have done it without their technical expertise, their custom design, and their commitment."

Team Leader, Clinical Engineering, Medical Center, Pittsburgh, PA

Buyer's Guide | Scalers & Converters

For product details and supported resolutions, see the **page** listed below.

Solution/Description	Input Connector(s)	Output Connector(s)	Switchable	Code	Page
Multi-Format AV to HDMI Switching HD Scaler Analog-to-digital converter, scaler, and switch with HDMI output supporting resolutions up to 1920 x 1200 (WUXGA) and HDTV up to 1080p.	(1) HDMI with audio, (1) VGA with audio, (1) Component with audio, (1) Composite with audio, (1) S-Video with audio, (1) optional audio	(1) HDMI; audio jacks	•	AVSWSC-MULTI-HDMI	p. 57
Multi-Format HD Video Scaler Digital/analog scaler that accepts PC RGB (up to UXGA), Component (480i up to 1080p), and DVI (up to WUXGA), scaling them to DVI and analog outputs.	(1) DVI-I, (1) VGA, (1) Component	(1) DVI-I, (1) VGA F	•	AC139A	p. 57
Video to PC/HDTV Switching Scaler Upconverts from analog video, enables specification as either Component or PC video (up to 1080i or SXGA resolutions); audio version also available.	(1) Component, (1) Composite, (1) S-Video, (1) VGA, plus audio jacks on AC138A version	(1) HD15 with (1) VGA cable and (1) HD15/(3) RCA cable (YPbPr); plus audio jacks on AC138A version	•	AC136A-R2 AC138A	p. 58
VGA to HDMI Converter Scaler with Local VGA Scales VGA or Component video input for output to an 1080p HDTV or WUXGA screen.	(1) VGA with adapter cable for Component plus 3.5-mm jack and TOSLINK optical fiber port for audio	(1) HDMI, (1) VGA (local output); plus 3.5-mm jack and TOSLINK optical fiber port for audio	—	AVSC-VGA-HDMI	p. 58
VGA/HDTV Video Scaler Plus VGA/HDTV to VGA/HDTV scan rate converter that outputs a specified resolution and refresh rate regardless of the input.	(1) VGA	(1) VGA; (1) VGA (local loop out with mirroring capabilities)	—	AC345A-R2	p. 58
Multi-Input Video Scaler VGA video scaler/multiple-input switch that scales input video for display on VGA, XGA, or RGBS devices; 4/3 output up to 1600 x 1200 (UXGA); 16/9 up to 1366 x 768 (WXGA).	(2) Composite, (1) S-Video, (1) Component, (1) VGA, (1) DVI-I, (3) MCO audio	(1) RGB on (1) HD15 and DVI-I, (1) DVI; (1) MCO audio	•	AC216A-R2	p. 59
Multi-Format Video Scan Converter Converts PC or HDTV video to interlaced Component, Composite, or S-Video (NTSC/PAL); supports resolutions up to UXGA (PC) and 1080i (HDTV).	(1) VGA, (1) Component (YPbPr or YCbCr)	(1) Composite, (1) S-Video, (1) Component (YCbCr), (1) VGA (passthrough), (1) Component (YPbPr/YCbCr passthrough)	—	VSC-VGA-TV	p. 59
PC to Video Converter Converts VGA for display on an NTSC TV.	(1) VGA	(1) Composite, (1) S-Video, (1) VGA	—	AC336A	p. 60
VGA to Video Ultimate Pro Converts VGA to Composite, S-Video, or Component video signals.	(1) VGA	(1) SCART (RGB), (1) S-Video, (1) S-Video, (1) Composite, (1) Component	—	AC340A	p. 60
Video to VGA Portable Converts video from Component, S-Video, or Composite source for VGA display.	(1) Component, (1) Composite, (1) S-Video, (1) VGA (passthrough), plus audio jacks	(1) VGA with audio	—	AC328A-R4	p. 60
VGA to RGB Converter Converts VGA to RGB sync-on-green.	(1) VGA	(1) RGB sync-on-green	—	AC312A	p. 61
3G-SDI/HD-SDI to HDMI Converter Converts SDI for output on an HDMI display.	(1) SDI	(1) HDMI, (1) SDI (passthrough)	—	VSC-SDI-HDMI	p. 62
VGA/DVI to DVI-D Converter Converts and scales VGA video and DVI-D video for single-link DVI-D output.	(1) DVI-I (with VGA adapter cable)	(1) DVI-D	—	ACS411A-R2	p. 62
VGA/DVI/Video/EGA/CGA to DVI-D Converter Converts and scales EGA/CGA, VGA, Component, S-Video, Composite, and DVI-I video for single-link DVI-D output.	(1) DVI-I (with VGA, Component YPbPr and S-Video adapter cables), (1) EGA/CGA (DB9)	(1) DVI-D	—	ACS412A	p. 62
VGA/DVI/RGB to DVI-D Converter Converts and scales VGA, RGBHV, and DVI-I video for single-link DVI-D output..	(1) DVI-I (with VGA adapter cable); (1) Component RGBHV on (5) BNC	(1) DVI-D	—	ACS414A	p. 62
VGA/DVI/Video/SDI to DVI-D Converter Converts and scales SDI, VGA, Component (YPbPr), S-Video, Composite, and DVI-I video for single-link DVI-D output.	(1) DVI-I (with VGA adapter cable), (1) Component, (1) S-Video, (1) SDI, (1) or (4) Composite	(1) DVI-D	—	ACS413A	p. 62

What do you need: a converter or a scaler?

If you're not sure, give our FREE Tech Support a call.

Video converters, at their most basic, convert and reformat signals from one video interface for another type of video interface.

A scaler with scan conversion technology, however, samples the input signal at full resolution and converts the image into a signal suitable for display on a TV or an HDTV. Resolution matches the native resolution of the connected display.

Usually, the scaling involves "upconverting" the signal so the resolution is accurately framed for a newer display type. The actual scaling is a process where the number of display pixels is mapped and adjusted to accurately match the display's resolution. Deinterlacing technology with advanced motion compensation intelligently scales the source signal to the desired resolution with virtually no artifacts or distortion.

Multi-Format AV to HDMI Switching HD Scaler

Convert and scale multiple types of video and audio for digital HDMI output.

- Functions as an analog-to-digital video converter, scaler, and switch.
- Five input types: VGA, Composite, Component, S-Video, and HDMI.
- HDMI output supports PC resolutions up to 1920 x 1200 (WUXGA) and HDTV resolutions up to 1080p.
- Switch scaled digital output to any input.
- ✦✦ WARRANTY — 2 Years

This device eliminates the need to buy several devices to convert, scale, and switch inputs when routing analog signals to a digital display.

Ideal for digital signage, AV distribution, and corporate theater applications, it scales analog PC, Component, Composite, and S-Video input for digital display at a number of different resolutions on newer HDMI screens.

Advanced scaling gives you clear output. You can also reformat HDMI input for output on an HDMI screen at another resolution.

The scaler also converts digital and analog audio into digital format, supports EDID for optimized video card/monitor communications, and features adaptive 3D comb filter, digital noise reduction, and video deinterlacing.

CE Approval — Yes
RoHS — Yes

Video formats supported

Input:

HDMI/DVI: 480i/576i, 480p/576p, 720p @ 60/50 Hz, 1080i @ 60/50 Hz, 1080p @ 60/50 Hz, VGA @ 60/72/75/85 Hz, SVGA @ 56/60/72/75/85 Hz, XGA @ 60/70/75/85 Hz, SXGA @ 60/75/85 Hz, UXGA @ 60 Hz, WXGA @ 60 Hz (1280 x 800), WSXGA @ 60 Hz (1680 x 1050), WUXGA @ 60 Hz (1920 x 1200), WXGA+ @ 60 Hz (1440 x 900), SXGA+ @ 60 Hz (1400 x 1050), WSXGA @ 60 Hz (1680 x 1050), WUXGA @ 60 Hz (1920 x 1200);
VGA (PC): All the above except 480i/576i, 480p/576p;
Component (YPbPr): 480i/576i, 480p/576p, 720p @ 60/50 Hz, 1080i @ 60/50 Hz, 1080p @ 60/50 Hz

Output:

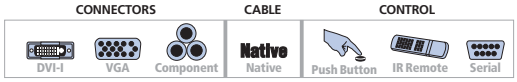
HDMI/DVI: 480i/576i, 480p/576p, 720p @ 60/50 Hz, 1080i @ 60/50 Hz, 1080p @ 60/50 Hz, VGA @ 60 Hz, SVGA @ 60 Hz, XGA @ 60 Hz, SXGA @ 60 Hz, UXGA @ 60 Hz, WXGA @ 60 Hz (1280 x 800), WXGA+ @ 60 Hz (1440 x 900), SXGA+ @ 60 Hz (1400 x 1050), WSXGA @ 60 Hz (1680 x 1050), WUXGA @ 60 Hz (1920 x 1200)

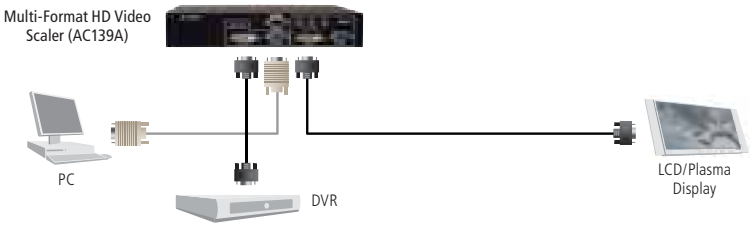
Item	Code
Multi-Format AV to HDMI Switching HD Scaler	AVSWSC-MULTI-HDMI

✦ Includes (1) scaler, (1) power supply, (1) Composite video/audio cable, (1) Component (YPbPr) cable, (1) IR remote controller, and (1) user manual.

Multi-Format HD Video Scaler

Need to convert different formats for display? Save money and time by using just one scaler.





- A powerful, high-definition digital (DVI/HDMI) and analog (PC VGA/YPbPr) scaler that does the job of multiple products, making your job a lot easier.
- Produces professional-grade, superior video output for a perfect image on an LCD or other digital signage display.
- Accepts PC RGB (up to UXGA), HD Component (480i up to 1080p), and DVI (up to WUXGA) and scales them to DVI and analog outputs at the resolutions you specify.
- HDCP (HDMI) compliant DVI input and output.
- Output resolution selectable from 480i to 1080p (HDTV) and VGA to WUXGA (PC).
- Provides sharp, flicker-free output.
- ✦✦ WARRANTY — 2 Years

Video formats supported

Input:

DVI/HDMI: 480i/576i, 480p/576p, 720p @ 60/50 Hz, 1080i @ 60/50 Hz, 1080p @ 60/50 Hz, VGA @ 60/72/75/85 Hz, SVGA @ 56/60/72/75/85 Hz, XGA @ 60/70/75/85 Hz, SXGA @ 60/75/85 Hz, UXGA @ 60 Hz, WXGA @ 60 Hz (1280 x 800), WSXGA @ 60 Hz (1680 x 1050), WUXGA @ 60 Hz (1920 x 1200);
VGA (PC): All the above except 480i/576i, 480p/ 576p, 1080i;
YPbPr: 480i/576i, 480p/576p, 720p @ 60/50 Hz, 1080i @ 60/50 Hz, 1080p @ 60/50 Hz

Output:

DVI/HDMI: 480i/576i, 480p/576p, 720p @ 60/50 Hz, 1080i @ 60/50 Hz, 1080p @ 60/50 Hz, VGA @ 60 Hz, SVGA @ 60 Hz, XGA @ 60 Hz, SXGA @ 60 Hz, UXGA @ 60 Hz, WXGA @ 60 Hz (1280 x 800), XGA @ 60 Hz (1680 x 1050), WUXGA @ 60 Hz (1920 x 1200);
HD15: All the above except for WSXGA, WUXGA

Front-panel, IR-remote, and RS-232 controllable, the scaler features adjustable brightness, contrast, and RGB levels so you get professional-grade, superior video output on LCDs or other HD displays.

NOTE: For HDMI connections, you'll need an adapter. To order, call our FREE Tech Support.

Click and find at blackbox.eu.
Product specifications, as well as more converters and scalers.

CE Approval — Yes
RoHS — Yes

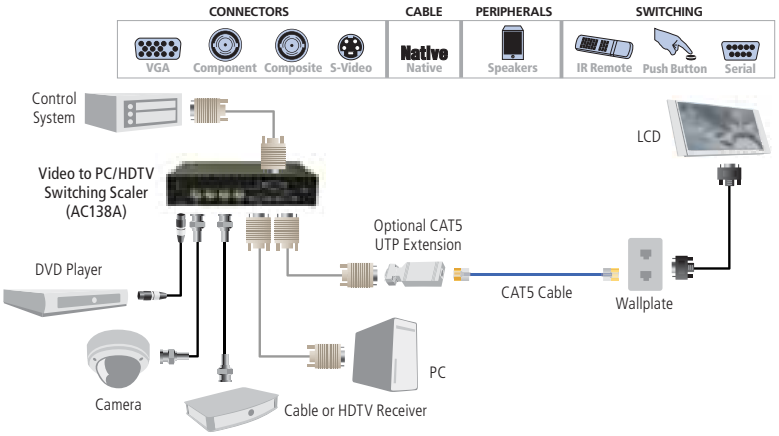
Item	Code
Multi-Format HD Video Scaler	AC139A

✦ Includes (1) scaler, (1) IR remote controller, (1) power cord, and (1) user manual.

Video to PC/HDTV Switching Scalers with or without Audio

Professional multiformat switchers and scalers for HDTV outputs up to 1080i.

AC138A: top: front view; bottom: rear view



- Upconvert from various analog inputs for high-resolution PC or HDTV output.
- Switch scaled output to any input.
- Fine-tune sharpness and color, apply a 3D comb filter to stop jitter, and more.
- For clean display, features time-based correction and digital noise reduction.
- Switch using front-panel buttons, the included IR remote controller, or via an RS-232 connection.
- ✦✦ **WARRANTY** — 2 Years

This scaler upconverts various analog video inputs for an HD display and enables you to switch between four video sources.

Specify output and resolution as either Component or PC video (with scaled output for 480p, 576p, 720p, and 1080i HDTV or VGA/SVGA/XGA/SXGA resolutions).

It supports Composite video (NTSC/PAL), S-Video (NTSC/PAL), Component video (SD/HD), and PC video inputs. For output, just specify the scaling and resolution as either RGBHV PC (up to SXGA) or YPbPr HDTV video (up to 1080i).

Resolutions supported

Input: PC: VGA (640 x 480), SVGA (800 x 600), XGA (1024 x 768), SXGA (1280 x 1024), UXGA (1600 x 1200) (passthrough);
HDTV: 480i, 576i, 480p, 576p, 720p, 1080i, 1080p;
Scaled output: VGA (640 x 480), SVGA (800 x 600), XGA (1024 x 768), SXGA (1280 x 1024);
HDTV: 480p, 576p, 720p, 1080

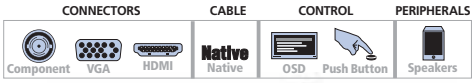
CE Approval — Yes
RoHS — Yes

Item	Code
Video to PC/HDTV Switching Scalers	AC136A-R2
with Audio	AC138A

✦ Include (1) scaler, (1) IR remote controller, (1) VGA cable, (1) S-Video cable, (1) Composite video cable, (1) BNC to RCA adapter, and RS-232 software.

VGA to HDMI Converter Scaler with Local VGA

Scale VGA or Component input for HD 1080p or WUXGA output.



- Scales VGA or Component video for digital HDMI output to an HD screen at 1080p resolutions.
- Local VGA loop-through port for outputting PC or Component signals on a local monitor.
- Also supports WUXGA (1920 x 1200).
- Audio support, too. Converts a digital/analog audio signal for output via HDMI, TOSLINK™, and mini-stereo connectors at the same time.
- Easy-to-use OSD menu for control.
- Includes Component to VGA breakout cable.
- ✦✦ **WARRANTY** — 1 Year

Resolutions supported

VGA input/output: PC: 480i/576i (NTSC/PAL), 480p/576p, 720p at 50/60 Hz, 1080i at 25/30 Hz, 1080p at 50/60 Hz, VGA at 60/72/75/85 Hz, SVGA at 56/60/72/75/80 Hz, XGA at 60/70/75/85 Hz, SXGA at 60/75/85 Hz, UXGA at 60 Hz, WXGA at 60 Hz (1280 x 800), WSXGA at 60 Hz (1680 x 1050 Hz), WUXGA at 60 Hz (1920 x 1200 Hz);
HDMI SD/HD output: 480i/576i (NTSC/PAL), 480p/576p, 720p at 50/60 Hz, 1080i at 25/30 Hz;
HDMI PC output: VGA at 60/72/75/85 Hz, SVGA at 56/60/72/75/80 Hz, XGA at 60/70/75/85 Hz, SXGA at 60/75/85 Hz, UXGA at 60 Hz, WXGA at 60 Hz (1280 x 800), WSXGA at 60 Hz (1680 x 1050 Hz), WUXGA at 60 Hz (1920 x 1200 Hz)

CE Approval — Yes
RoHS — Yes

Item	Code
VGA to HDMI Converter Scaler with Local VGA	AVSC-VGA-HDMI

VGA/HDTV Video Scaler Plus

Scalable resolution plus video output mirroring—great for teleprompter use.

- Scale PC or HDTV video up or down to any other PC or HDTV resolution.
- Horizontal mirroring for teleprompter and rear-projection systems.
- Converts between RGBHV and YPbPr.
- HD15 loop-out for local monitoring.
- Large memory for real-time frame rate conversion.
- Automatically detects input mode and timing.
- Enables you to adjust sampling clock, phase, and screen position.

- ✦✦ **WARRANTY** — 2 Years

CE Approval — Yes
RoHS — Yes

Item	Code
VGA/HDTV Video Scaler Plus	AC345A-R2

✦ Includes (1) scaler, (1) VGA cable, (1) VGA to Component cable, and (1) universal power supply.

Multi-Input Video Scaler

A multimedia box for the conference room or home theater.

- A video scaler and a multiple-input video switch in one unit!
- Optimizes video output for brilliant display.
- Features BNC, RGB, and YUV Component input and DVI-I output.
- Scales input video for display on VGA, XGA, or RGBS devices.
- Supports 4:3 and 16:9 screen formats and PC, Mac®, or Sun® Workstation® input.
- Auto-adapt motion compensation.
- Easy to manage using RS-232 control software or the IR remote controller (both are included).
- 1U-high rackmountable chassis.
- ✦✦ **WARRANTY** — 3 Years

Top: front view; bottom: rear view

Do you have a high-end screen or projector but not a way to patch in more than one video feed?

You need the Multi-Input Video Scaler. It combines the functions of a scaler and a multiple-input video switch, so you can take full advantage of your display's resolution for presentations. In addition, the scaler has 5-pin MCO connectors for audio.

Its six video inputs can be used to connect DVD players, satellite TV receivers, or any device that uses NTSC, PAL, or SECAM decoding. It then scales the input video for display on VGA, XGA, or RGBS equipment. You can even display a computer image. Simply connect your PC or Mac to the scaler's HD15 port.

Whether used in a boardroom, lobby, retail environment, or as part of a home theater setup, the scaler delivers crisp images with superior resolution and brightness.

Its digital decoder includes an advanced comb filter and an auto-adapting delacing scheme, resulting in a cinema-quality image that has fewer scan lines and superior on-screen motion. Gamma correction ensures an optimum "near black" luma response.

Resolutions supported

Selectable output:
4/3: SVGA: 800 x 600; XGA: 1024 x 768; SXGA: 1280 x 1024; SXGA+: 1400 x 1050; UXGA: 1600 x 1200;
16/9: WVGA: 852 x 480; 720p: 1280 x 720; WXGA: 1366 x 768 (D-ILA)

RoHS — Yes

Item	Code
Multi-Input Video Scaler	AC216A-R2

✦ Includes (1) scaler, (1) IR remote controller, RS-232 control software, (1) VGA male/male cable, (1) S-Video Y/C cable, (1) DVI male/male cable, (3) MCO connectors, and (1) power cord.

Multi-Format Video Scan Converter

Convert high-resolution PC or HDTV video to interlaced Component, Composite, or S-Video.

- Downconverts PC and HDTV video for interlaced NTSC/PAL and Component video output.
- Supports high-resolution PC input up to UXGA (1600 x 1200 at 60 Hz) and HDTV input up to 1080i at 60 Hz.
- Output video format is selectable between Composite/S-Video and Component (YCbCr).
- Features additional VGA and RCA connectors for looping PC and HDTV input signals through.
- Advanced 2-D flicker filter ensures flicker-free picture.
- ✦✦ **WARRANTY** — 3 Years

The high-performance Multi-Format Video Scan Converter converts not only PC video but also HDTV video to interlaced NTSC/PAL and Component output.

It's ideal for use in applications like videoconferences, home theaters, business presentations, and lecture rooms where high-resolution PC or HDTV signals need to be converted to interlaced Component, Composite, or S-Video signals. NTSC and PAL formats are supported.

The Multi-Format Video Scan Converter supports high input refresh rates up to 140 Hz (VGA) and has an aspect adjustment setting for wide-screen HDTV sources, as well as adjustable contrast, brightness, color, and sharpness, and adjustable image scaling (pan, position, and zoom).

Last state memory recall enables all settings to be saved if the converter is turned off or unplugged from the electrical outlet.

What's more, it's easy to control: through an RS-232 console connection, using an IR remote-controlled on-screen display, or from the front panel.

Click and find at blackbox.eu.
Complete specifications.

Resolutions supported

Input:
PC: VGA @ 60–140 Hz; SVGA @ 60–120 Hz; XGA @ 60–85 Hz; SXGA @ 60 Hz; UXGA @ 60 Hz;
HDTV: 480i, 480p @ 60 Hz; 576i, 576p @ 50 Hz; 720p @ 50 and 60 Hz; 1080i @ 48, 50, and 60 Hz; 1080i @ 48, 50, and 60 Hz

CE Approval — Yes
RoHS — Yes

Item	Code
Multi-Format Video Scan Converter	VSC-VGA-TV

✦ Includes (1) converter, (1) IR remote controller, (1) 3-ft. Composite video cable, (1) 3-ft. S-Video cable, (1) 3-ft. Component cable, (1) 3-ft. VGA cable, application software, and (1) power cord.

PC to Video Converter

The inexpensive and compact yet versatile video converter.

- Convert video from your PC for your TV or projector with one simple box.
- No software or external power required.
- Resolutions up to 1280 x 1024 at 60 Hz.
- VGA input and output for simultaneous television/monitor viewing.
- Composite and S-Video outputs.
- Adjust screen size in VGA mode.
- ✦✦ **WARRANTY** — 1 Year

RoHS — Yes

NOTE: This converter can only be used with NTSC (North America) televisions and projectors.

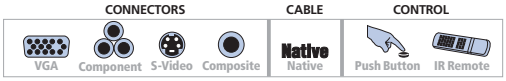
What's included

- PC to Video Converter
- Composite video cable
- S-Video cable
- VGA cable
- USB power cable

Item	Code
PC to Video Converter	AC336A

VGA to Video Ultimate Pro

Convert VGA to Composite, S-Video, or Component signals.



- A portable, universal device that converts VGA for display on nearly any TV, or for recording on a videotape or recordable DVD.
- Features cable outputs for connecting your PC or Mac® video card to Composite video, S-Video, or Component video equipment.
- Works with most HDTV and plasma screens and video projectors.
- Offers stable video output at resolutions up to 1600 x 1200 (NTSC or PAL) for PCs and up to 1152 x 864 for Mac computers.
- "Plug-and-display"—no software needed, powered from the PS/2 or USB interface.
- ✦✦ **WARRANTY** — 1 Year

TECH SPECS

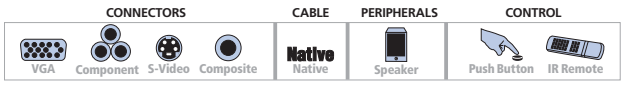
Hardware Requirements — IBM® PC compatible, 286 or faster with VGA display card; or Mac G3/G4 or iMac® with CRT port
Resolution (Maximum) — PC: 1600 x 1200 (NTSC or PAL);
Mac: 1152 x 864
Video Requirements — Television or other video display device with Composite video, S-Video (S-VHS), or Component video (YCbCr)
CE Approval — Yes
RoHS — Yes
Power — From the PS/2 or USB interface
Size — 1.3"H x 3.1"W x 4.9"D (3.3 x 7.9 x 12.4 cm)
Weight — 0.4 lb. (0.2 kg)

Item	Code
VGA to Video Ultimate Pro	AC340A

✦ Includes (1) converter, (1) remote control with (2) AAA batteries, (1) Composite cable, (1) S-Video cable, (1) Component cable, (1) VGA Y cable, and (2) power cables (USB and PS/2).

Video to VGA Portable

Get Component, S-Video, and Composite video on your VGA monitor today.



- Enables you to display video from any Component, S-Video, or Composite source on any VGA monitor.
- Has Component, S-Video, Composite, and VGA (PC passthrough) inputs.
- Supports 1920 x 1080 resolution.
- ✦✦ **WARRANTY** — 1 Year

The Video to VGA Portable from Black Box gives you video input capabilities on your VGA monitor in an easy-to-use package.

This converter has the flexibility to work with any VESA VGA-compatible monitor.

Plug a DVD player, camcorder, or any other video device into this converter and connect it to the VGA monitor. No software is required—set it up in 30 seconds. Motion-adaptive interfield deinterlacing provides crisp, clear video output when you're done.

A tiny, full-function remote control enables remote operation from where you sit, and push-button and remote control options enable you to set and save settings. Simply access an on-screen menu to control brightness, contrast, color, hue, and sharpness, and to select picture mode, resolution, and frequency. The unit also autosaves the last input source when you turn off the power.

The Video to VGA Portable features an on-screen display with English, German, Italian, Spanish, French, and Dutch, and supporting NTSC/PAL/SECAM standards for use around the world.

TECH SPECS

Resolution (Maximum) — 1920 x 1080
Video Requirements — Television or other video display device with Composite video, S-Video (S-VHS), or Component video (YCbCr)
CE Approval — No
RoHS — Yes
Connectors — (2) HD15 (VGA) in/out); (1) Composite (RCA) in; (1) 4-pin mini DIN (S-Video) in; (1) 3.5-mm stereo audio in; (2) RCA stereo audio in; (1) 3.5-mm stereo audio out
Power — 100–120 VAC, 60 or 75 Hz, 1 amp;
Output: 6 VDC 800 mA
Size — 1.2"H x 2.2"W x 3.7"D (3 x 5.6 x 9.4 cm)
Weight — 0.3 lb. (0.1 kg)

What's included

- Video converter
- IR remote control with battery
- 1-ft. VGA cable (male/male)
- AC power adapter

Item	Code
Video to VGA Portable	AC328A-R4

VGA→RGB Converter

Save when connecting to a multiport, high-end video switch.

CONNECTORS: VGA, BNC | CABLE: Native

- An economical and easy way to convert VGA/XGA/SXGA connector signals to three RGB sync-on-green BNC coax connectors.
- Maximum resolution is 1600 x 1280 @ 75 Hz.
- Powered by the VGA/XGA/SXGA signals.
- Supports all emulated video modes, including CGA, MDA, EGA, VGA, XGA, and SXGA.
- ✦✦ WARRANTY — 1 Year

CE Approval — Yes

NOTE: The converter includes a cable for making easy connections to your PC's VGA port.

Item	Code
VGA→RGB Converter	AC312A

VGA DDC Ghost

Trouble-free VGA video connections for screens without DDC support.

CONNECTORS: VGA | CABLE: Native

The VGA DDC Ghost is ideal for mixed analog/digital video systems, and newer monitors that support only a few high-resolution formats.

- Helps prevent boot problems.
- Plug it into a display. It reads all EDID information, storing it in its non-volatile memory.
- Then install it between a graphics card and a switch or extender.
- Can also use its built-in DDC emulation table.
- Ideal for digital signage, multimedia, or KVM switching systems with mixed analog and digital video, as well as for newer monitors supporting only a few high-resolution formats.
- ✦✦ WARRANTY — 2 Years

TECH SPECS

Resolution — Up to 1920 x 1200 at 60 Hz
CE Approval — Yes
RoHS — Yes
Connectors — (2) HD15 F (video in/out), (1) optional external power supply
Indicator — (1) LED (operation)
Power — Via the interface or the optional external power supply
Size — 2.4"H x 1.4"W x 0.8"D (6 x 3.6 x 2.1 cm)
Weight — 0.1 lb. (<0.1 kg)

Item	Code
VGA DDC Ghost	ACS2100A
For external power, order...	
5-V Power Supply	PS649-R3

DVI DDC Ghost

Add true DDC support to your digital signage or AV system.

CONNECTORS: DVI-I | CABLE: Native

- Prevents blank screens and boot problems.
- Great for computers unable to display images or render colors correctly.
- Also helpful if your graphics card displays only the minimum resolution on your high-resolution screen.
- Stores all EDID information in non-volatile memory.
- An easy-to-use device that resolves display resolution and color issues caused by a lack of DDC information.
- Compact and easy to install.
- ✦✦ WARRANTY — 1 Year

The DVI DDC Ghost resolves display resolution and color issues caused by a lack of DDC information, preventing blank screens and boot problems.

TECH SPECS

Resolution — PC: Up to 1920 x 1200; HD: 480p, 720p, 1080i; 25–165 MHz
CE Approval — Yes
RoHS — Yes
Connectors — (2) DVI-I F (video in/out), (1) power supply
Indicators — (1) LED: Operation
Power — 5 VDC, 2 A, external
Size — 2.6"H x 2.2"W x 1.1"D (6.7 x 5.6 x 2.8 cm)
Weight — 0.3 lb. (0.1 kg)

Item	Code
DVI DDC Ghost	ACS2000A

DVI-D to VGA Adapter

View images from CPUs with a DVI output on a VGA monitor.

CONNECTORS: VGA, DVI-D | CABLE: Native

- Take advantage of an existing VGA monitor.
- Converts single-link digital DVI signals from a graphics card on a computer for display on an analog VGA monitor or projector.
- Performs digital-to-analog conversion. Built-in "virtual DDC" converts VGA analog DDC signals to DVI digital DDC signals.
- Has DVI-D single-link female and HD15 female VGA connectors.
- Compact, lightweight, and easy to install.
- ✦✦ WARRANTY — 2 Years

TECH SPECS

Scan Range — Horizontal: 22–95 kHz; Vertical: 48–90 Hz
Video Bandwidth — 170 MHz
CE Approval — Yes
RoHS — Yes
Connectors — DVI input: (1) DVI-D single-link F; VGA output: (1) HD15 F
Power: (1) 5-VDC jack
Power — External 5-VDC
Size — 1"H x 2"W x 3.25"D (2.5 x 5.1 x 8.3 cm)
Weight — 0.2 lb. (0.1 kg)

Item	Code
DVI-D to VGA Adapter	AC1038A

✦ Includes (1) adapter and (1) DVD-D cable.

3G-SDI/HD-SDI to HDMI Converter

A low-cost way to use a standard HDMI screen instead of a pricey SDI display for SDI monitoring.

- Converts serial digital interface video for output to an HDMI® display.
- Supports 3G-SDI (3 Gbps), HD-SDI, and SD-SDI input on coax BNC.
- Provides digitally pure SDI-to-HDMI conversion, with no video or audio loss.
- For adding an HDMI screen to a high-end broadcasting or AV application.
- ✦✦WARRANTY — 1 Year

HDMI output side

SDI input and loopout side

This handy converter enables you to connect a 3G-SDI, an HD-SDI, or an SD-SDI source for output on an HDMI display—just what you need to repurpose an ordinary HDTV for video monitoring in your SDI setup.

Even better, it features SDI loopout via a second coax connector. This way, you can display a 3G-SDI signal from a camera on an HDMI panel while simultaneously outputting the 3G-SDI signal to a second SDI device for local monitoring. Or use the loopout to daisychain to additional SDI equipment.

For both older and newer SDI interfaces, the converter processes bit rates from 270 Mbps up to 2.97 Gbps, and cable equalization helps compensate for loss when connecting at maximum standard distances.

The 3G-SDI/HD-SDI to HDMI Converter processes up to eight channels of audio, including 7.1-channel or 5.1-channel audio in addition to HDMI video.

NOTE: Distance depends on the quality of the cable and the type of SDI source. Cable equalization supports maximum distances of 300 feet (90 m) for 3G-SDI; 500 feet (150 m) for HD-SDI; and 1000 feet (300 m) for SD-SDI.

CE Approval — Yes
RoHS — Yes

Item	Code
3G-SDI/HD-SDI to HDMI Converter	VSC-SDI-HDMI

Analog/DVI-I Video to DVI-D Converters

Professional-grade devices for outputting older video formats on a DVI-D screen.

ACS411A-R2

- Ideal for studios and labs with a mix of legacy and digital video equipment.
- Automatically detect and scale VGA resolutions up to 1920 x 1200.
- Also scales DVI-I for a DVI-D display.
- Feature more than 160 preset video formats stored in their internal tables.
- Also enable you to manually select the most suitable video mode, even if you don't know the input signal.
- Easy OSD control for resolution selection and video-correction tools.
- Include an IR remote for easy control.
- ✦✦WARRANTY — All: 2 Years

VGA/DVI to DVI-D Converter

- Converts and scales analog VGA video, plus DVI-D video, for single-link DVI-D output.
- Features a DVI-I input, adaptable to VGA with the included cable.

VGA/DVI/Video/EGA/CGA to DVI-D Converter

- Converts legacy EGA and CGA signals for output on a DVI-D screen.
- Also converts VGA, S-Video, Component (YPbPr), and Composite video to DVI-D.
- Features a DVI-I input, adaptable to VGA with the included cable.
- Also comes with DB9 CGA/EGA, YPbPr Component video, and S-Video cables.

VGA/DVI/RGB to DVI-D Converter

- Converts analog VGA and RGB video to DVI for display.
- Includes five BNC connectors for RGB/RGBHV Component video input. Comes with a (5) BNC/(5) BNC cable.
- Features a DVI-I input, adaptable to VGA with the included cable.
- Ideal for CATV or satellite broadcast studios.

NOTE: For kits to mount four converters in 1U of rack space, as well as DIN rail mount options, call us.

ACS413A

VGA/DVI/Video/SDI to DVI-D Converter

- Converts analog video and SDI video (HD-SDI up to 720p) for output on a DVI screen.
- Supports VGA, S-Video, Component (YPbPr), and Composite video to DVI-D conversion.
- Features a DVI-I input, adaptable to VGA with the included cable.
- Also comes with: SDI BNC-to-BNC, YPbPr Component video, and S-Video cables.

CE Approval — Yes
RoHS — Yes

Item	Code
VGA/DVI to DVI-D Converter	ACS411A-R2
VGA/DVI/Video/EGA/CGA to DVI-D Converter	ACS412A
VGA/DVI/RGB to DVI-D Converter	ACS414A
VGA/DVI/Video/SDI to DVI-D Converter	ACS413A

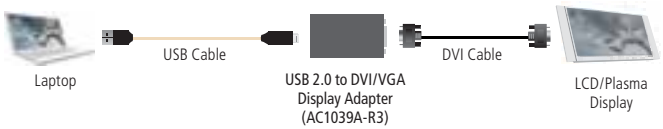
USB 2.0 to DVI/VGA Display Adapter

The easy way to add a DVI display or projector to your PC through a USB port.

CONNECTORS: DVI-D, USB | CABLE: Native

- Quickly add an LCD or a projector to a PC with this hot-swappable device.
- Or use two adapters to add two monitors for a total of three.
- Expands a viewing area with more room for extra views and windows.
- Configure as a mirror image, an extended desktop, and a primary display.
- USB Mini B and DVI-I ports. Supports resolutions of 1920 x 1080.
- Eliminates a video card. Plugs into a PC's USB 2.0 port.
- ✦✦ **WARRANTY** — 1 Year

CE Approval — Yes
RoHS — Yes



Ideal applications:

- At the **workstation**: View large files and manage multiple applications much more effectively.
- At **trade shows**: Create multiple-screen presentations.
- In **finance**: Organize data streams by monitor or view charts and live information at the same time.
- Also great for graphic design and editing professionals.

Item	Code
USB 2.0 to DVI/VGA Display Adapter	AC1039A-R3

USB to HD Pro

Convert USB input to HDMI to play stored media on a big screen!

CONNECTORS: HDMI, USB | CABLE: Native

- An HDMI- and HDCP-compliant USB converter for streaming media files stored on your PC to an HD screen with HDMI input.
- Plug and play. Just connect to a PC's USB port with the included USB cable, then link it to a home theater system with an HDMI cable.
- Supports high quality (720p) images and sound.
- Enables you to rotate screen image 90°, 180°, or 270°, and adjust resolution and color.
- Also has an integrated audio equalizer.
- ✦✦ **WARRANTY** — 1 Year

CE Approval — Yes
RoHS — Yes

Item	Code
USB to HD Pro	AC346A

HDMI and DVI Pattern Generator

Save time when testing video calibration on HDMI and DVI screens.

CONNECTORS: HDMI | CABLE: Native | CONTROL: Push Button

- Portable device for testing and evaluating HDMI HDTV/HDCP displays and panels.
- Helps ensure video reproduction and display are up to par in digital signage applications.
- Enables you to generate test patterns to troubleshoot video calibration issues with ease.
- A great tool for verifying that source video is reproduced accurately on a remote display.
- Uses 48 timings from 640 x 350 to 1920 x 1200 resolutions, and up to HDTV 1080p video.
- Ideal for healthcare, biotech, process engineering, and educational lab settings.
- ✦✦ **WARRANTY** — 1 Year

CE Approval — Yes
RoHS — Yes

Item	Code
HDMI and DVI Pattern Generator	PG-DIG

✦ Includes (1) pattern generator, (1) HDMI cable, and (1) HDMI-to-DVI converter.

VGA Pattern Generator

Evaluate and test VGA signal reproduction on screens and panels.

CONNECTORS: VGA | CABLE: Native | CONTROL: Push Button

- Helps ensure VGA video signal reproduction and display are up to par.
- Enables you to generate test patterns to troubleshoot video calibration issues with ease.
- A great tool for verifying that source video is reproduced accurately on a remote display.
- Uses 38 timings for VGA resolutions from 640 x 350 up to 1680 x 1050, as well as 34 video test patterns for determining color performance and linearity fast.
- Supports H/V (TTL) and sync-on-green (SoG) type at 162-MHz frequency.
- Compact and durable.
- ✦✦ **WARRANTY** — 1 Year

CE Approval — Yes
RoHS — Yes

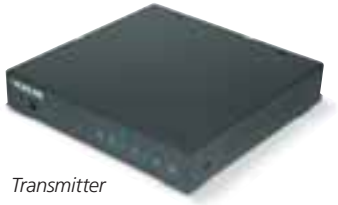
Item	Code
VGA Pattern Generator	PG-VGA

✦ Includes (1) pattern generator and (1) VGA cable.

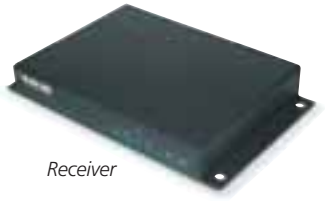
HD View HDMI Multidigital Extender

Extend HD media over CATx and communicate with remote Ethernet peripherals via IP.

CONNECTORS: HDMI, DisplayPort, RJ-45, Serial, Audio | CABLE: CAT5, 5e, 6 | PERIPHERALS: Touchscreen | FEATURES: Daisychainable



Transmitter



Receiver

- Distributes over CATx cable up to 328 feet (100 m) point to point. Or daisychain units for distances up to 1968 feet (600 m).
- Provides 10-/100-Mbps IP connectivity to peripherals linked to a receiver.
- Offers bidirectional control of remote serial devices.
- Automatic equalization and quality compensation.
- Transmitter has both HDMI and DisplayPort++ inputs for newer AV equipment.
- Receiver has an HDMI port for display output plus a 3.5-mm audio jack.
- ✦✦ **WARRANTY** — 3 Years

NOTE: A display can only be placed at the end of a chain. Distance and performance depend on the quality of cables and graphics card. For full specifications, see ***blackbox.eu****.*

CE Approval — Yes
RoHS — Yes

Item	Code
HD View HDMI Multidigital Extender	
Transmitter	HDV-HDMI-TZ
✦ Includes (1) transmitter, (1) DisplayPort cable, (1) HDMI cable, (1) Ethernet cable, (1) serial cable, and (1) power supply.	
Receiver	HDV-HDMI-RZ
✦ Includes (1) receiver, (1) DisplayPort cable, (1) HDMI cable, (1) Ethernet cable, (1) serial cable, and (1) power supply.	

HDMI Extender Kit over CATx

Use two CAT5e or CAT6 cables to extend HDMI video and audio.

CONNECTORS: HDMI, RJ-45 | CABLE: CAT5,5e,6

- Extends HDMI much farther than what's possible with HDMI cables.
- Transmits HDMI and DDC signals.
- Durable, lightweight, and low-profile design.
- CAT6 maximum distances: 1080p 12-bit Deep Color: 90 feet (27 m); 1080p 8-bit: 200 feet (60 m); 720p, 1080i: 250 feet (76 m); and 480i/p: 300 feet (90 m).
- CAT5e maximum distances: 1080p 8-bit: 150 feet (45 m); 720p, 1080i: 200 ft. (60 m); and 480i/p: 300 feet (90 m).
- ✦✦ **WARRANTY** — 2 Years

NOTE: Does not support Denon AVR-1908 equipment.

CE Approval — Yes
RoHS — Yes

Item	Code
HDMI Extender Kit over CATx	AC564A-R2
✦ Includes (1) transmitter, (1) receiver, (1) power supply, and Velcro® mounting pads.	

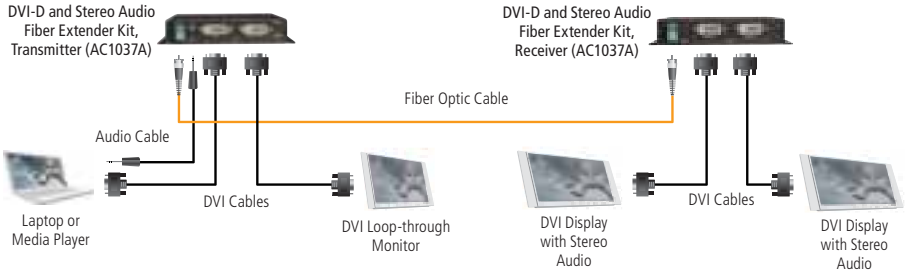
DVI-D and Stereo Audio Fiber Extender Kits

Extend DVI multimedia over a single fiber— and display video on two remote displays!

CONNECTORS: DVI-D | CABLE: Multimode-ST®, Single-Mode-ST | PERIPHERALS: Speaker

- Great for digital signage in stadiums, airports, and more!
- Transmit single-link DVI-D and stereo audio over a single-mode fiber with no compression or de-skewing.
- Resolutions up to 1920 x 1200.
- Single-mode extender supports distances up to 15 kilometers (9.3 mi.); multimode model transmits up to 750 meters (2460.6 ft.).
- DVI screens can be linked up to 3.7 meters (45 ft.) from the output side.
- Receiver features dual DVI outputs, so you can display the same image on two screens.
- Ideal for applications where you want to keep a noisy PC away from audio pickups.
- Also use in areas where there's no room for both a PC and a signage display.
- ✦✦ **WARRANTY** — 3 Years

AC1037A


DVI-D and Stereo Audio Fiber Extender Kit, Transmitter (AC1037A)
DVI-D and Stereo Audio Fiber Extender Kit, Receiver (AC1037A)
Fiber Optic Cable
Audio Cable
DVI Cables
DVI Cables
Laptop or Media Player
DVI Loop-through Monitor
DVI Display with Stereo Audio
DVI Display with Stereo Audio

NOTE: For simplex, single-mode fiber, call our FREE Tech Support.

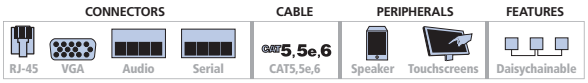
CE Approval — Yes
RoHS — Yes

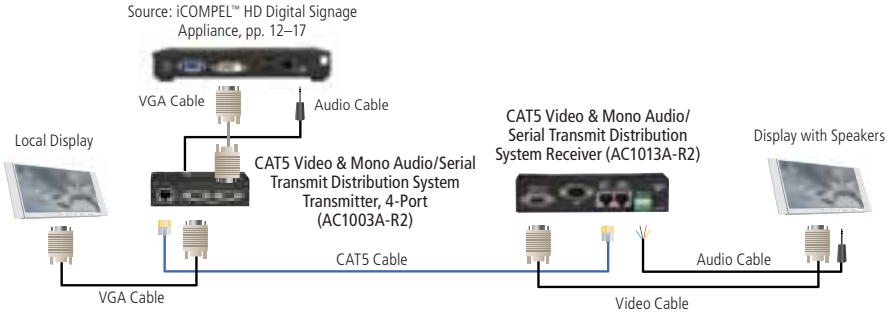
Item	Code
DVI-D and Stereo Audio Fiber Extender Kits	
Single-Mode	AC1037A
Multimode	AC1037A-MM
✦ Include (1) transmitter, (1) receiver, and (2) power supplies.	

CAT5 Video & Mono Audio/Serial Transmit Distribution System

Extend hi-res VGA video with audio or serial data as far as 2000 feet over ordinary CAT5 cable.

AC1000A-R3




Source: iCOMPEL™ HD Digital Signage Appliance, pp. 12–17
VGA Cable
Audio Cable
Local Display
CAT5 Video & Mono Audio/Serial Transmit Distribution System Transmitter, 4-Port (AC1003A-R2)
CAT5 Video & Mono Audio/ Serial Transmit Distribution System Receiver (AC1013A-R2)
Display with Speakers
CAT5 Cable
Audio Cable
VGA Cable
Video Cable

CE Approval — Yes
RoHS — Yes

NOTE: Not designed for Ethernet network operation.

- Distribute VGA video and either analog audio or transmit-only serial data up to 2000 feet (606.9 m) over CAT5 cable.
- Great for many digital signage applications, including corporate campuses, retail, and more!
- Support resolutions up to 1920 x 1200 and DDC/EDID communications.
- All receivers except for the AC1001A-R2 can be daisychained (12 receivers total).
- No software needed. They operate independently of your network.
- ✦✦ **WARRANTY** — 1 Year

Item			Code
First order a transmitter for video plus either audio OR transmit-only serial…			
CAT5 Video & Mono Audio/Serial Transmit Distribution System Transmitters			
1-Port			AC1000A-R3
4-Port			AC1003A-R2
…then add a receiver either for video/audio or video/audio or serial signals.			
CAT5 Video & Mono Audio/Serial Transmit Distribution System Receivers			
Video & Mono Audio, Non-Daisychainable			
	250-ft.	(76.2-m)	AC1001A-R2
Video & Mono Audio or Transmit-Only Serial, Daisychainable			
	600-ft.	(182.9-m)	AC1002A-R3
with Skew Compensation	600-ft.	(182.9-m)	AC1211A
	1200-ft.	(365.8-m)	AC1013A-R2
	2000-ft.	(609.6-m)	AC1014A-R2

CAT5 Video Distribution System Accessories

Flexible options for multipoint and rackmount applications.

AC1050A

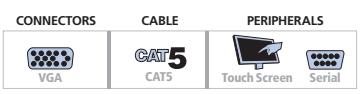
- Add a splitter/distribution amp for point-to-multipoint CAT5 Video Distribution applications.
- Splits the RJ-45 output from any of the above transmitters into nine RJ-45 outputs for connecting any of the above receivers (or daisychain of receivers).
- Extends video up to 2000 feet (609.9 m) when used with the AC1014A-R2 (**above**).
- Also distributes audio or transmit-only serial data.
- ✦✦ **WARRANTY** — 2 Years

Item			Code
For distributing signals to up to nine locations, order…			
CAT5 Video Distribution System 1 x 9 Video Distribution Amp			AC1050A
To convert VGA RGBHV signals to RGB sync signals, order a…			
VGA to RGB Converter			AC312A
To connect S-Video, Component, or Composite video to a VGA port, order an adapter cable…			
S-Video to HD15 Cable	6-ft.	(1.8-m)	AC1067A
(3) RCA to HD15 Cable	3-ft.	(0.9-m)	AC1068A
Rackmount your transmitter(s) or receiver(s) with…			
1U Rackmount Kit for (4) AC1000A-R3 Units			AC1009

CAT5 Video/RS-232 Extender Kit

Extend video and RS-232 signals up to 360 feet over CAT5 cable!

These plug-and-play local and remote units communicate over easy-to-install shielded CAT5 cable.



CE Approval — Yes
RoHS — Yes

- Broadcasts a high-resolution VGA video image on a screen up to 360 feet (109.7 m) from your host PC.
- Enables you to remotely control a video projector with RS-232 serial connectors.
- Also great for connecting touchscreens.
- VESA resolution up to 1600 x 1200 at 75 Hz.
- ✦✦ **WARRANTY** — 3 Years

Item	Code
CAT5 Video/RS-232 Extender Kit	AC163A

✦ Includes (1) local unit, (1) remote unit, (2) power supplies, and (2) power cords.

CAT5 Audio/Video Broadcaster

Broadcast real-time audio and video to remote displays over inexpensive CAT5 cable.

AC156A-8

AC158A-PWREM

- Ideal for broadcasting real-time information, alerts, and advertising to digital signage in airports, in lobbies, or anywhere you want to reach a target audience.
- Sends video and mono audio to hundreds of displays over shielded CAT5.
- Supports VGA video up to 1600 x 1200 at 75 Hz—up to 360 feet (109.7 m).
- Great for schools, universities, or any classroom training application. Send a screen to an entire class or just one display at the push of a button.
- "Darken All" feature on the broadcaster (AC156A-8) enables an instructor to darken all remote monitors.
- ✦✦ **WARRANTY** — 3 Years

CONNECTORS: VGA | CABLE: CAT5 | PERIPHERALS: Spkr. & Mic | SWITCHING: Serial

CE Approval — Yes
RoHS — Yes

Item	Code
First, order one broadcaster…	
CAT5 Audio/Video Broadcaster	
8-Port	AC156A-8
…next, for system expansion, order a splitter…	
CAT5 Audio/Video Splitter	
8-Port	AC157A-8
…then, order one remote for each display.	
CAT5 Audio/Video Remote Unit	AC158A-REM
CAT5 Audio/Video Powered Remote Unit	AC158A-PWREM

Compact CAT5 Audio/Video Splitters

Use CAT5 cable to send stereo audio and video to multiple locations.

- Support VGA video up to 1280 x 1024 at 60 to 85 Hz.
- Operate up to 500 feet (152.4 m) over inexpensive CAT5 UTP cable.
- Can cascade up to 3 units to support up to 24 speakers and monitors.
- Differential signaling provides protection from EMI/RFI interference.
- Super compact size.
- ✦✦ **WARRANTY** — 2 Years

AC154A-2

AC154A-8

CONNECTORS: VGA | CABLE: CAT5 | PERIPHERALS: Speaker | FEATURES: Cascadable

CE Approval — Yes
RoHS — Yes

Item	Code
First, choose your splitter…	
Compact CAT5 Audio/Video Splitters	
2-Channel	AC154A-2
8-Channel	AC154A-8
…then, order one receiver for each channel.	
Compact CAT5 Audio/Video Receiver	AC155A-R2

VGA/Buffered Video Splitters

Send crisp video to 10 displays with these fully buffered splitters.

- Send displays up to 250 feet (76.2 m)!
- 300-MHz bandwidth gives sharp images.
- VGA, Super VGA, XGA, and legacy monochrome compatible.
- Drive signals to 700 feet (213.3 m) with our 2-Channel VGA Booster (**below**).
- ✦✦ **WARRANTY** — 1 Year

CE Approval — AC159A-R3– AC160A-R3, AC058A-R3
RoHS — Yes except AC160A-R3

AC058A-R3: top: front view; bottom: rear view

CONNECTORS: VGA | CABLE: Native

Item	Code
VGA/Buffered Video Splitters	
2-Channel	AC056A-K-R4
4-Channel	AC057A-K-R4
6-Channel	AC159A-R3
8-Channel	AC058A-R3
10-Channel	AC160A-R3

✦ Each model includes (1) splitter, (1) 5-ft. HD15 male/male VGA input cable; and (1), (3), (5), (7), or (9) 10-ft. male/female VGA video extension cable(s).

2-Channel VGA Booster

Great video displays at great distances—up to 700 feet.

- Display on two remote monitors simultaneously.
- VGA, SVGA, and XGA compatible.
- Easy plug-and-play operation.
- ✦✦ **WARRANTY** — 1 Year

CONNECTORS: VGA | CABLE: Native

Item	Code
2-Channel VGA Booster	AC074A-R3

✦ Includes (1) booster and (1) 5-ft. VGA input cable (male/male).

CAT5 VGA Video Splitters

Set up a digital signage distribution system over CAT5.

CONNECTORS: VGA or Composite, RJ-45 | CABLE: CAT5,5e,6

Top: AC502A-R2; bottom: AC503A-R2

Top: AC501A-R2; bottom: AC500A-R2

- Use inexpensive CAT5 UTP cable.
- Simultaneously broadcast a VGA display to four remote VGA displays.
- Transmit up to 360 feet (109.7 m) with the Standard Remote Module.
- Double the distance to 820 feet (109.7 m) with the Long-Range Remote Module.
- Support resolutions up to 1280 x 1024.
- ✦✦ **WARRANTY** — 1 Year

CE Approval — Yes
RoHS — Yes

Item	Code
First, order a host module…	
CAT5 VGA Video Splitters	
2-Channel	AC500A-R2
4-Channel	AC501A-R2
✦ Each includes (1) 5-ft. video cable.	
…next, order one module for each remote monitor in your application.	
Remote CAT5 VGA Video Splitter Modules	
Standard	AC502A-R2
Long-Range	AC503A-R2

2-Channel Component Video Splitter/Switch

Send Component video to two screens or switch between two video sources.

CONNECTORS: Component | CABLE: Native | SWITCHING: Push Button

Configure this dual-purpose box as either a splitter or switch.

- Great for digital signage applications.
- Works as either a splitter or a switch.
- BNC connectors for both input and output.
- Compatible with Component video (YCbCr or YPbPr) and RGB (sync-on-green) signals.
- Supports all interlaced and noninterlaced RGB, TV, and HDTV resolutions, including 720p, 1080i, and 1920 x 1080.
- Autosensing 100–240-VAC power supply.
- Front-panel LEDs show operation mode.
- ✦✦ **WARRANTY** — 2 Years

CE Approval — Yes
RoHS — Yes

Item	Code
2-Channel Component Video Splitter/Switch	AC1030A

✦ Includes (1) video splitter/switch, (9) RCA-to-BNC adapters, and (1) power supply.

Video to VGA Converter

Display PAL, SECAM, and NTSC video on high-resolution TFT, plasma, or video projectors.

CONNECTORS: VGA, Composite BNC, Composite RCA, S-Video, MCO Audio | CABLE: Native | PERIPHERAL: Speaker | CONTROL: Push Button, Serial

- Converts PAL, SECAM, and NTSC to VGA.
- Perfect for digital signage and conference room installations.
- Provides video to high-resolution image conversion with audio.
- With multiple output resolutions up to 1400 x 1050, enhances the brightness and sharpness of any video signal.
- Powerful auto 3:2 and 2:2 pull-down film detection removes flickering and movement artifacts.
- ✦✦ **WARRANTY** — 1 Year

Inputs and outputs

Inputs:
1: Composite: PAL, SECAM, NTSC; audio;
2: Composite/S-Video: PAL, SECAM, NTSC; audio;
3: Computer: RGBHV, RGBS, RGsB; audio

Outputs:
1–2: Computer: RGBHV, RGBS, RGsB;
3: Computer: RGBHV, RGBS, RGsB; audio; buffered loopthrough

RoHS — Yes

Item	Code
Video to VGA Converter	AC211A-R2

✦ Includes (1) converter, (1) VGA cable, (1) 5-pin terminal block for audio, and (1) CD-ROM with manual and control software.

1-to-2 Composite Video Splitter • 1-to-2 S-Video Splitter

Send one Composite or S-Video signal to two locations.

CONNECTORS: Composite or S-Video | CABLE: Native

AC177A-R2: rear view

- Send signals from one source, such as a video camera, to two devices, such as a TV or monitor.
- Buffered output ports and 150-MHz bandwidth provide excellent signal strength.
- Boosts signals and images over long runs.
- NTSC, PAL, and SECAM compatible.
- AC176A-R2: (3) BNC female.
- AC177A-R2: (3) 4-pin mini DIN female.
- ✦✦ **WARRANTY** — 2 Years

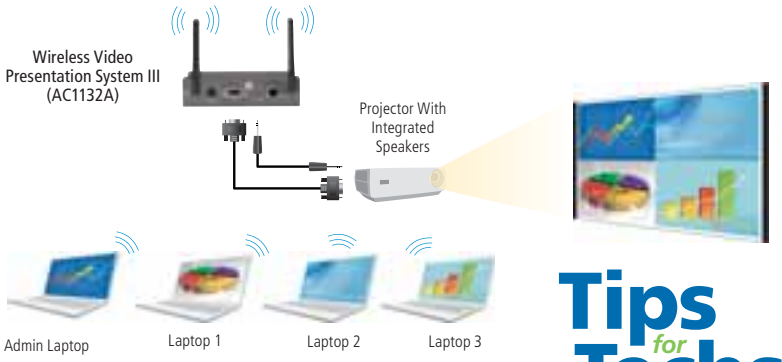
RoHS — Yes

Item	Code
1-to-2 Composite Video Splitter	AC176A-R2
1-to-2 S-Video Splitter	AC177A-R2

Wireless Video Presentation System III (Wireless VPS III)

The simple way to improve collaboration in large meeting rooms!

CONNECTORS: VGA, RJ-45, Audio | CABLE: Wireless, Native | PERIPHERALS: Speaker



- Enables up to 254 users to wirelessly send their computer video and audio to a projector from where they sit—up to 300 feet (91.4 m) away.*
- Receives a Wi-Fi® laptop extended screen image for output to any VGA display device.
- Supports latest 802.11n Wi-Fi devices!
- Works with both PC and Mac® computers and is PDA and Windows Mobile® 5/6 compatible.
- Session login and gatekeeper functions keep presentation content secure.
- Uses IEEE standard 64-/128-bit WEP/WPA/WPA2-PSK security.
- Perfect for conference rooms and classrooms with VGA projectors.
- Has an RJ-45 port for wired LAN links. Also works as a wireless access point for WLAN and Internet connections.
- ✦✦WARRANTY — 1 Year

* *NOTE: Distance possible in optimum conditions.*

Tired of being tethered to a projector during a presentation? Want more collaboration by giving others easy access to what's being projected on-screen? Then our Wireless Video Presentation System III (VPS III) is for you.

This 802.11b/g/n receiver transforms a "wired" projector into a high-end, 2.4-GHz wireless one. Plugged into any display device with a VGA port, it enables a roomful of laptop or even smartphone users to access that device from hundreds of feet away. It receives computer screen images wirelessly for output to the display. No more having to swap cables in and out at a projector.

Then from a Web-based control page, an administrator controls the order of access by the users and assigns quadrants to each presenter during a 4-to-1 split-screen session. It can also be managed via SNMPv2c.

Most users will connect to the receiver via a client plug-in; but the system can also be operated via a USB token (included). You can even use your Wireless VPS III to create more USB tokens using ordinary flash drives.

Tips for Techs
a BLACK BOX® production
See the video on blackbox.com.

What's more, the Wireless VPS III can be used as an access point that is not attached to your network or as a network-attached access point. Users can then access and display content from the Web or a wireless LAN. Or use its RJ-45 port to link it to a wired LAN.

TECH SPECS

IP Address Configuration — Automatic DHCP or manual (static)
Output Resolutions — SVGA (800 x 600), XGA (1024 x 768), WXGA (1280 x 768), WXGA+ (1280 x 800)
Standards — IEEE 802.11b/g/n (2.4 GHz), 802.3/3u (10BASE-T/100BASE-TX)
Video Formats — MPEG1, MPEG2, MPEG4, DivX® 3/4/5, Xvid, WMV 9, H.264 (.mov)
Video Streaming — Up to 30 fps
Wireless Channels — 11
Wireless Range (Maximum) — 300 ft. (91.4 m)*
Wireless Speed (Maximum) — 130 Mbps
Connectors — (1) RJ-45 (network); (1) HD15 F (VGA); (1) 3.5-mm (stereo audio); (1) USB F (USB 2.0)
Size — 1.1"H x 4.6"W x 5.5"D (2.7 x 11.7 x 14 cm)
Weight — 1.1 lb. (0.5 kg)
CE Approval — Yes
RoHS — Yes

Item	Code
Wireless Video Presentation System III	AC1132A

✦ Includes (1) receiver with antennas, (1) power supply, (1) USB token, (1) mounting kit, and (1) flash drive with user's manual.

Loaded with features for simpler access *plus* more productive meetings!

- Includes Plug & Show token for fast setup for all meeting participants.
- Simple, Web-based conference control screen.
- Remote desktop function. Plug in USB keyboard/mouse to control your PC wirelessly.
- Enlarges part of a video for full-screen playback.
- Supports 4-to-1 split-screen projection. Display four users' screens at the same time!
- Or show one screen on four displays (1-to-4)—works like as a sharable wireless VGA splitter.

Advanced Projector Controller with 2-Channel VGA Splitter

Automate projector and device functions for presentations.

CONNECTORS: VGA, Composite, S-Video | CABLE: Native | CONTROL: OSD

Top: rear view; bottom: front view

- Automatically detects VGA, Composite, or S-Video inputs and issues control commands to the device via a bidirectional RS-232 port.
- Built-in dual VGA splitter boasts a 150-foot (45.7-m) drive capability.
- Connect your PC, notebook, VCR, DVD, camera, etc. to the video input of the unit.
- Wide bandwidth supports resolutions to 1600 x 1200 at any refresh rate.
- Fully user-programmable to control and manage your projector.
- Prioritizes devices if more than one is connected to the unit.
- ✦✦WARRANTY — 2 Years

CE Approval — Yes
RoHS — Yes

Item	Code
Advanced Projector Controller with 2-Channel VGA Splitter	AC1033A

Micro Wireless VGA Presentation Tool

Enhance meeting collaboration. Plug this compact device into a display for easy presentation sharing.

CONNECTORS: VGA | CABLE: Wireless

- Wirelessly project laptop video from where you sit—up to 300 feet (91.4 m) away.
- Easy to set up and use.
- Supports four active users in quad-screen mode.
- Compatible with 802.11n.
- Features plug-and-display, Web browser-based control.
- Supports TCP/IP protocols and DHCP or static IP address configuration.
- Outputs SVGA and XGA resolutions; supports 32-bit color.
- Functions as both a wireless receiver and an 802.11b/g/n access point/bridge.
- ✦✦WARRANTY — 1 Year

Simplify presentation sharing during meetings. The Micro Wireless VGA Presentation Tool plugs into any display or projector with a VGA port, enabling laptop or other Wi-Fi users to log in and display video wirelessly. It supports multiple users and can display up to four at the same time in quad-screen mode.

And because it also works as a wireless access point for clients, you can configure it to communicate with existing wireless access points on your network to access the Internet or a LAN.

To install the Micro Wireless VGA Presentation Tool, you simply insert it into the VGA port on your display or projector, plug in its power adapter (if PoVGA isn't supported), power up the projector or display, and turn on the presentation tool.

TECH SPECS

Channels — 11 (U.S., Canada)
Operating System Support — Windows XP®/Vista/7
Resolutions — 800 x 600, 1024 x 768, 1280 x 768, 1280 x 800
Standards — IEEE 802.11b/g/n (2.4 GHz), IEEE 802.3 (10BASE-T), IEEE 802.3u (100BASE-TX)
Wireless Encryption/Key — IEEE standard 64-/128-bit WEP/WPA/WPA2-PSK
CE Approval — Yes
RoHS — Yes
Connectors — VGA output: (1) HD15 M; Power: (1) barrel jack
Indicator — (1) Power LED
Power — Either PoVGA or external AC power supply: Input: 100–240 VAC, 50–60 Hz; Output: 5 VDC, 1.2 amps (max.)
Size — 0.9"H x 1.5"W x 3.75"D (2.3 x 3.8 x 9.5 cm)
Weight — 0.1 lb. (0.05 kg)

Item	Code
Micro Wireless VGA Presentation Tool	AVX-VGA-WI

Click and find at blackbox.eu.
For our line of VGA LCD projectors, see blackbox.eu.

A/V Switching Control System with Audio

Control conference room display devices remotely.

CONNECTORS: VGA, Composite, S-Video, RJ-45 | CABLE: Native, CAT5,5e,6 | PERIPHERALS: Speaker, Serial | SWITCHING: Push Button

- Add high-end audio/video control capabilities to a meeting room or classroom with this discreet wallplate transmitter and standalone receiver system.
- Provides audio/video switching and display control, UTP extension, and audio amplification in a single package.
- Switch between three sources for output to a projector or other display device and speakers.
- Control up to 750 feet (228.6 m) away over a CATx link. Also offers DB9 serial control.
- Supports 1080i video and PC resolutions up to 1600 x 1200 for UXGA projector output.
- ✦✦WARRANTY — 2 Years

*The system includes a 4-gang wallplate transmitter (**above**) and a receiver (**right**), which fit easily and discreetly in most rooms!*

TECH SPECS

Resolution (Maximum) — PC: 1600 x 1200 non-interlaced, 85 Hz; HDTV: 1080i; NTSC, PAL, or SECAM S-Video or Composite video
CE Approval — Yes
RoHS — Yes
Connectors — Transmitter: Source 1: (1) HD15 F (VGA) with (1) stereo audio jack; Source 2: (1) HD15 F (VGA) with (1) stereo audio jack; Source 3: (1) 4-pin mini DIN F (S-Video)/(1) RCA (Composite) with (2) audio (left/right) jacks; Interconnection (rear): (2) RJ-45 (Port A and Port B), (1) 3.5-mm serial (3.5-mm/DB9 cable supplied); Receiver: Video output: (1) HD15 F (VGA), (1) 4-pin mini DIN (S-Video); Serial: (1) DB9 M (to control projector); Audio speakers: (2) screw terminals; Audio line out: (1) jack; Interconnection: (2) RJ-45 (Port A and Port B)
Power — 100–240 VAC, 50–60 Hz, autosensing
Size — Transmitter: 1.4"H x 8.2"W x 4.5"D (3.6 x 20.8 x 11.4 cm); Receiver: 1.4"H x 6.5"W x 3.6"D (3.6 x 16.5 x 9.1 cm)
Weight — Both units: 2.1 lb. (1 kg)

Item	Code
A/V Switching Control System with Audio	AC1075A

✦ Includes (1) wallplate transmitter, (1) standalone receiver with (1) power supply, (1) serial programming cable, and (1) Windows® GUI software CD.

DisplayPort Cables and Adapter Cables

The fast, compact digital interface.

- Transmit both digital video and audio in one cable.
- Support video with up to 1080p resolution plus digital audio.
- Version 1.1 supports 10.8 Gbps.
- Compact latching connectors.
- Support color depths of 6, 8, 10, 12, and 16 bits and two-way connectivity.
- Adapters are interface powered and require no separate power supply.
- ✦✦ **WARRANTY** — Lifetime

VCB-DP-0006-MM

EVNDPDVI-MF

Item	Code
DisplayPort Cable, Male/Male, 28 AWG	
3-ft. (0.9-m)	VCB-DP-0003-MM
6-ft. (1.8-m)	VCB-DP-0006-MM
10-ft. (3.0-m)	VCB-DP-0010-MM
15-ft. (4.5-m)	VCB-DP-0015-MM
DisplayPort Adapter Cables, 8" (20.3 cm)	
DisplayPort Male to HDMI Female	EVNDPHDMI-MF-R3
to DVI-D Female	EVNDPDVI-MF-R3
to HD15 (VGA) Female	EVNDPVGA-MF-R3

HDMI Cables and Adapters

Transmit your digital video and audio signals over one cable!

EVHDMI04-DS-001M

EVHDMI01T

- Just one cable contains the wiring you need to transmit high-bandwidth compressed video, multichannel digital audio, and intelligent format and command data.
- Connect HDTV set-top boxes, digital TVs, DVDs, and other equipment with HDMI interfaces.
- Choose High-Speed HDMI Cable for high-demand applications such as 3D.
- Swivel adapters and cable have connectors that turn 90° for angled installations.
- HDMI-to-DVI cables and adapters enable you to connect mismatched interfaces.
- Double shielding prevents signal loss and screen ghosting for maximum video performance.
- ✦✦ **WARRANTY** — Lifetime

RoHS — Yes

HDMI® is a standard high-speed interface for connecting digital media. Black Box has a wide range of HDMI cables and adapters to fit your AV installation. Use them to connect DVD and Blu-ray players, set-top cable or satellite boxes, and other digital audio/visual equipment with the HDMI interface.

Order Standard HDMI to HDMI Cable for most HD television connections with resolutions up to 1080i or 720p video from cable, satellite, or Blu-ray players. Order High-Speed HDMI to HDMI Cable for very high-resolution 1080p displays, as well as 4K, 3D, and Deep Color.

Swivel HDMI Cable features one or two swiveling connectors that rotate 90° up and down. They're ideal for rear equipment connections in tight areas.

Use an HDMI to HDMI Micro Cable to connect a smartphone, digital camera, tablet, and other portable devices to a TV or HDMI display.

Use Standard HDMI to DVI Cable to connect an HDTV set-top box, DTV, DVD, a switch, or a splitter with an HDMI connector to DVI or vice versa. Or you can use a Standard HDMI to DVI Swivel Adapter to make the connection. The swivel adapter turns 90° for an angled installation.

Item	Code
Standard HDMI to HDMI Cable, PVC, Male/Male	
1-m (3.2-ft.)	EVHDMI01T-001M
2-m (6.5-ft.)	EVHDMI01T-002M
3-m (4.5-ft.)	EVHDMI01T-003M
5-m (16.4-ft.)	EVHDMI01T-005M
10-m (32.8-ft.)	EVHDMI01T-010M
15-m (49.2-ft.)	EVHDMI01T-015M
20-m (65.6-ft.)	EVHDMI01T-020M
High-Speed HDMI to HDMI Cable, PVC, Male/Male	
1-m (3.2-ft.)	EVHDMI06-001M
2-m (6.5-ft.)	EVHDMI06-002M
3-m (4.5-m)	EVHDMI06-003M
5-m (16.4-ft.)	EVHDMI06-005M
Standard HDMI to HDMI Cable, Swivel/Swivel, Male/Male	
1-m (3.2-ft.)	EVHDMI04-DS-001M
2-m (6.5-ft.)	EVHDMI04-DS-002M
3-m (4.5-ft.)	EVHDMI04-DS-003M
Standard HDMI to HDMI Cable, Swivel/Straight, Male/Male	
1-m (3.2-ft.)	EVHDMI04-SS-001M
2-m (6.5-ft.)	EVHDMI04-SS-002M
3-m (4.5-ft.)	EVHDMI04-SS-003M
Standard HDMI to HDMI MIcro Cable, PVC, Male/Male	
3-ft. (0.9-m)	HDMI-MICRO-0003
6-ft. (1.8-m)	HDMI-MICRO-0006
Standard HDMI to DVI Cable, PVC, Male/Male	
1-m (3.2-ft.)	EVHDMI02T-001M
2-m (6.5-ft.)	EVHDMI02T-002M
3-m (4.5-ft.)	EVHDMI02T-003M
5-m (16.4-ft.)	EVHDMI02T-005M
Standard HDMI Adapters	
HDMI Male to DVI Female	FA790
HDMI Male to DVI Male	FA795
Standard HDMI Swivel Adapter, 24-Pin	
HDMI Male to DVI Female	FA791

DVI Cables and Adapters

Get high-speed digital communications and improved video.

- Supports dual-link digital transmissions up to 9.9 Gbps and single-link digital transmissions up to 4.95 Gbps.
- Optimizes computer-to-projector connections, eliminating resolution or color changes and pixel-lock adjustments.
- Meets the requirements of digital video, digital telecommunications, and parallel computing.
- ✦✦ **WARRANTY** — Lifetime

RoHS — Yes

EVNDVI02

FA461

FA462

Designed specifically for high-performance data-transmission applications, DVI Cables meet the requirements of digital video, digital telecommunications, and parallel computing applications.

For dual-link applications, the cables enable blazing speeds up to 9.9 Gbps! For single-link, get data speeds up to 4.95 Gbps.

If you have a non-DVI monitor but want to adapt a DVI-I interface with it, you will need our passive DVI Adapters: The FA461 links a DVI-I female interface with a VGA HD15 male interface; and the FA462 connects a DVI-I male interface to a VGA HD15 female interface.

NOTE: When using adapters, only analog video is supported.

Item	Code
DVI Cables	
DVI-A Male, Single-Link, Straight Hood/VGA HD15 Male	
6-ft. (1.8-m)	EVNDVI01-0006
10-ft. (3.0-m)	EVNDVI01-0010
15-ft. (4.5-m)	EVNDVI01-0015
25-ft. (7.6-m)	EVNDVI01-0025
DVI-I Male Dual-Link, 90°/ VGA HD15 Male	
6-ft. (1.8-m)	EVNDVI04-0006
Custom Lengths	EVNDVI04
DVI-D Male/DVI-D Male, Dual-Link, Straight Hoods	
6-ft. (1.8-m)	EVNDVI02-0006
10-ft. (3.0-m)	EVNDVI02-0010
15-ft. (4.5-m)	EVNDVI02-0015
25-ft. (7.6-m)	EVNDVI02-0025
35-ft. (10.6-m)	EVNDVI02-0035
50-ft. (15.2-m)	EVNDVI02-0050
DVI-D Male/DVI-D Female Extension	
6-ft. (1.8-m)	EVNDVI03-0006
10-ft. (3.0-m)	EVNDVI03-0010
DVI-I Male/DVI-I Male, Dual-Link, Straight Hoods	
3.2-ft. (1.0-m)	DVI-I-DL-001M
4.9-ft. (1.5-m)	DVI-I-DL-001.5M
6.6-ft. (2.0-m)	DVI-I-DL-002M
9.8-ft. (3.0-m)	DVI-I-DL-003M
16.4-ft. (5.0-m)	DVI-I-DL-005M
32.8-ft. (10.0-m)	DVI-I-DL-010M
DVI Adapters, Single-Link	
DVI-I Male–VGA HD15 Female	FA461
DVI-I Female–VGA HD15 Male	FA462

Easy-Pull VGA Cable

Run VGA cable through walls or inside tight conduits. This cable goes 150 feet or more.

- Ideal for system integration.
- Connects PC or RGB video sources to display devices like projectors, flat screens, and more.
- Provides 1024 x 768 video resolution up to 150 feet and 800 x 600 video resolution up to 200 feet.
- Super flexible! You can pull it through ¾" conduits, and it makes pull times faster.
- Plenum-rated jacket.
- Includes heat shrink tubing for permanent installation.
- ✦✦ **WARRANTY** — Lifetime

EVNPS80

HD15 Male–VGA

HD15 Female–VGA

TECH SPECS

Cable Construction — 26 AWG stranded copper
Shield — Inner: Aluminum/polyester tape; Outer: Spiral 38 AWG tinned copper, 97% coverage
Connectors — (1) HD15 M; (1) removable HD15 F; (1) 6-pin DIN M; (1) 6-pin DIN F

Item	Code
Easy-Pull VGA Cable	
15-ft. (4.5-m)	EVNPS80-0015
25-ft. (7.6-m)	EVNPS80-0025
35-ft. (10.6-m)	EVNPS80-0035
50-ft. (15.2-m)	EVNPS80-0050
100-ft. (30.4-m)	EVNPS80-0100
150-ft. (45.7-m)	EVNPS80-0150
Custom Lengths	EVNPS80

You may need a wallplate...

DB9 Wallplates *(For details, see **blackbox.eu**.)*

Single-Width	
(1) Punch	WP070
(2) Punch	WP071
Double-Width	
(1) Punch	WP072
(2) Punch	WP073

VGA Video Cable with Ferrite Core

High-quality cable for superior video transmissions.

HD15 Male—VGA

HD15 Female—VGA

- Ferrite core offers extra protection against external interference.
- Features tinned copper braid and outer braid for signal shielding.
- HD15 video connectors have Pins 9 and 15 enabled for compliance with the Display Data Channel (DDC) standard.
- Custom lengths also available.
- ✦✦ **WARRANTY** — Lifetime

RoHS — Yes

Item	Code
VGA Video Cable with Ferrite Core, HD15, PVC	
3-ft. (0.9-m)	
M/M	EVNPS06-0003-MM
M/F	EVNPS06-0003-MF
F/F	EVNPS06-0003-FF
5-ft. (1.5-m)	
M/M	EVNPS06-0005-MM
M/F	EVNPS06-0005-MF
F/F	EVNPS06-0005-FF
10-ft. (3.0-m)	
M/M	EVNPS06-0010-MM
M/F	EVNPS06-0010-MF
F/F	EVNPS06-0010-FF
20-ft. (6.0-m)	
M/M	EVNPS06-0020-MM
M/F	EVNPS06-0020-MF
F/F	EVNPS06-0020-FF

Item	Code
VGA Video Cable with Ferrite Core, HD15, PVC (Continued)	
25-ft. (7.6-m)	
M/M	EVNPS06-0025-MM
M/F	EVNPS06-0025-MF
F/F	EVNPS06-0025-FF
50-ft. (15.2-m)	
M/M	EVNPS06-0050-MM
M/F	EVNPS06-0050-MF
F/F	EVNPS06-0050-FF
75-ft. (22.8-m)	
M/M	EVNPS06-0075-MM
M/F	EVNPS06-0075-MF
F/F	EVNPS06-0075-FF
100-ft. (30.4-m)	
M/M	EVNPS06-0100-MM
M/F	EVNPS06-0100-MF

Component Video Cable
Component Video Cable with Audio

Hard-to-find cable for high-resolution video and audio—at a great price!

- Use for digital imaging, HDTVs, set-top boxes, soundstages, recording equipment, DVD players, and more.
- Video connectors are green, blue, and red.
- Audio connectors are red and white.
- Video signals are carried over mini-coax conductors for superior performance.
- Coax conductors are protected by foil and copper-braided shielding to reduce distortion.
- 24-karat gold plating.
- Custom lengths also available.
- ✦✦ **WARRANTY** — Lifetime

RoHS — Yes

EJ518

Using only one cable reduces clutter and makes audio/video connections easy!

Item	Code
Component Video Cable, (3) Male RCA Connectors on Each End	
2-ft. (0.6-m)	EJ517-0002
25-ft. (7.6-m)	EJ517-0025
50-ft. (15.2-m)	EJ517-0050

Item	Code
Component Video Cable with Audio, (5) Male RCA Connectors on Each End	
50-ft. (15.2-m)	EJ518-0050

Deluxe Audio/Video Cable • Deluxe Video Cable • Deluxe Audio Cable

Don't pay top price for premium audio and video cable!

EJ516

NOTE: Specify MM or MF when ordering.

- Use for satellite and CATV set-top boxes, DVD players, home stereo equipment, recording equipment, and more.
- Industry-standard color coding.
- Features 24-karat gold-plated connectors for top-quality transmission and a long life.
- Choose cables with right-angle plugs for making connections in tight spaces.
- Custom lengths also available.
- ✦✦ **WARRANTY** — Lifetime

RoHS — Yes

Item	Code
Deluxe Audio/Video Cable, (1) S-Video Male/ (2) RCA Male Connectors on Each End	
(3) Male to (3) Male	
2-ft. (0.6-m)	EJ516-0002
Deluxe Audio/Video Cable, (3) RCA Connectors on Each End	
(3) Male to (3) Male (MM) or (3) Female (MF)	
5-ft. (1.5-m)	EJ511-0005-MM
10-ft. (3.0-m)	EJ511-0010-MM
15-ft. (4.5-m)	EJ511-0015-MM, MF
25-ft. (7.6-m)	EJ511-0025-MM
50-ft. (15.2-m)	EJ511-0050-MM

Digital Signage Power Filter

Affordably protects displays, terminals, and other equipment at the point of use.

- Surge protection, noise filtering, and power management in one unit.
- Uses transient voltage surge suppression (TVSS) to reliably protect three devices against disturbances.
- Safeguards loads up to 7 amps at the point of use.
- Also offers telephony/ADSL line (RJ-11) protection and 10-/100-/1000-Mbps network data line (RJ-45) protection.
- Use it standalone or wallmounted (bracket and screws included).
- ✦✦ **WARRANTY** — 2 Years

Great for digital signage networks, PoS terminals, and other peripherals, this compact power filter prevents voltage transients from reaching sensitive electronic circuitry.

More effective than comparatively priced products, the Digital Signage Power Filter delivers UVR performance of less than/equal to 330 volts, the best protection level defined by UL® 1449.

Its filtering reduces final let-through voltage to 20 volts or less. Plus, the filter features overcurrent protection with a push-to-reset circuit breaker (no fuses to replace).

RoHS — Yes

Featuring (3) NEMA 5-15R outlets on a 6-inch (15.2-cm) cord and a 6-foot (1.8-m) power cord, the power filter provides protection for three devices, plus telephony (RJ-11) and network (RJ-45) protection.

Item	Code
Digital Signage Power Filter	DSPF3-S7-120V

In-Line Surge Protectors

Handy devices for protecting CATV, CCTV, and network devices from damaging power surges.

CATV Surge Protector

- Ideal for use with your CATV equipment, as well as antennas.
- Protects against lightning surges and electrical transients.
- Simple in-line installation at the port.
- Features two F-type connectors.
- Waterproof.
- Gas discharge tube technology.
- ✦✦ **WARRANTY** — 10 Years

CE Approval — Yes
RoHS — Yes

Item	Code
CATV Surge Protector	SP090A-R2

CCTV (BNC Coax) Surge Protector

- Connects directly to coax transmission lines.
- Silicon Avalanche Diodes provide the fastest response time available.
- Features two BNC female connectors.
- Includes a BNC male-to-male gender changer.
- 12 V clamping voltage; <0.2 ns response time.
- Ideal for use with mounted CCTV cameras.
- ✦✦ **WARRANTY** — Lifetime

RoHS — Yes

Item	Code
CCTV (BNC Coax) Surge Protector	SP450A-R2

CAT6 In-Line Surge Protector

- Protects CATx interfaces against power surges, electrostatic discharges, and ground loops.
- Supports speeds up to 1000 Mbps, making it ideal for Gigabit Ethernet applications.
- Use to protect PCs, switches, and more.
- Advanced avalanche diode technology.
- Low shunt capacitance reduces signal loss.
- ✦✦ **WARRANTY** — 10 Years

CE Approval — Yes
RoHS — Yes

Item	Code
CAT6 In-Line Surge Protector	SP529A

See all our power management solutions.

Visit our Web site to see more:
- Surge protection and opto-isolation solutions.
- Power distribution units for horizontal or vertical rack use.
- UPS solutions for continuous workstation uptime.
- Fallback and redundant power switches.

Just go to: blackbox.eu

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